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OBSERVATIONS

ON DAYS OF

UNUSUAL MAGNETIC DISTURBANCE,

MADE AT THE

BRITISH COLONIAL MAGNETIC OBSERVATORIES,

UNDER THE DEPARTMENTS OF THE

ORDNANCE AND ADMIRALTY.

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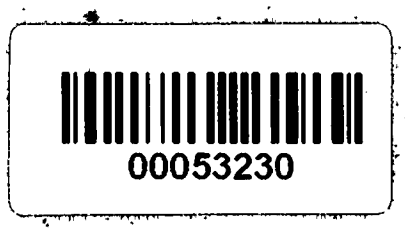
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PREFACE.

As the principal interest of the Observations, made during periods of magnetic disturbance, appears likely to proceed from their being viewed in connexion with similar observations made simultaneously in other parts of the globe, it has been considered desirable to separate the observations made at such times, from those which are made daily at stated intervals, and to print them in a volume by themselves; and by bringing together the observations of the same date, at the several Observatories, and arranging them in chronological order, to furnish the opportunity of more readily comparing them with each other, and with contemporaneous observations published elsewhere. It is intended that this volume shall comprise the disturbance observations made from 1840 to 1845 inclusive, at the Colonial Observatories instituted by the British Government; the part of the volume which is now published, contains those of 1840-1841.

In addition to the extra observations made at short intervals when the disturbance of the magnets was excessive, the regular observations (which are made hourly at some of the Observatories, and two-hourly at others,) have been extracted from the registers for the days of disturbance, and subjoined; being given for all the Observatories on all days on which extra observations were made at any one. The mean monthly positions of the magnets at the hours of regular observation have also been given, for the purpose of furnishing approximate normal positions, with which the observations on days of disturbance may be compared.

In the hope that an early publication of the observations in 1840-1841, and their comparison with simultaneous observations in other parts of the globe, may lead to the suggestion of more specific points of enquiry than are at present apprehended, and possibly to the substitution of improved instruments and modes of observation,—the printing of this part of the volume has been proceeded with, although all the materials required for the complete reduction of the observations have not yet been received. The coefficients are still wanting for the temperature corrections of the Horizontal and Vertical Force observations of the Antarctic Expedition and of the Van Diemen Island Observatory, and of the Vertical Force observations at St. Helena and the Cape of Good Hope, the necessary experiments for their determination not having yet been made. The scale coefficients

are also wanting for the Vertical Force Magnetometers of the Antarctic Expedition and of the Van Diemen Island Observatory; for the present, therefore, the observations with the latter instruments will show only the direction and comparative amount of any changes which may have taken place in the vertical force, leaving the ratio of the changes to the force itself undetermined.

The Observatories were completed, and the instruments moved into them at the following dates: at St. Helena in August, 1840; at Toronto in September, 1840; at Van Diemen Island in October, 1840; and at the Cape of Good Hope in April, 1841. At St. Helena and Toronto, however, the instruments were set up, previous to those dates, in rooms in which temporary accommodation was obtained.

Whilst observations at many stations yet remain to be published, it would be obviously premature to attempt to trace any single disturbance through the various modifications with which it may have manifested itself in different parts of the globe; but it may not be uninstructive to examine in some small degree the general character of these remarkable phenomena, as they have presented themselves at the stations, and during the periods at present under notice; particularly at Toronto and Van Diemen Island,—as the comparison of stations situated in different magnetic hemispheres, and nearly at the opposite extremities of a diameter of the globe, would seem to offer especial interest.

It has been justly remarked, that in enquiries concerning natural phenomena, which besides their principal cause, have a number of subordinate accidental causes, the course of investigation should be, to separate from the observed march of the phenomena, all that is accidental, for the purpose of drawing forth that which ranges itself under laws, and may thereby be connected with an efficient cause. If such be the course to be pursued when the regular portion of the phenomena forms the subject of investigation, we should adopt the converse proceeding when our attention is designed to be directed to the accidental or irregular portion; we should then endeavour to separate from the general march of the phenomena, all that appears to be subject to laws, leaving the residual to consist entirely of the irregular portion, which we desire to examine.

In our present enquiry, therefore, it is proper, in the first instance, to ascertain and to eliminate the regular diurnal movements of the magnetic elements, or those movements which depend upon the hour of the day, and the season of the year. For this purpose, the mean monthly positions of the magnets, at the regular hours of observation, have been taken as representing the mean diurnal march in the respective months; omitting in the means, the positions on days when disturbances from irregular causes prevailed to any considerable degree. It is probable that the number of days of observation in each month, may not be sufficient to give the diurnal movement with the precision with which it will hereafter be obtained by the combinations of more than a single year; but the general harmony of the different months, and the correspondence which is shown by the monthly means at Toronto and Van Diemen Island, are an evidence that the approxi-

mation is sufficient for the present purpose. In the tables which follow, and which contain the diurnal march derived from the monthly means, the lowest reading at whatever observation hour it may have occurred, has been taken as the zero for the month; in the case of the Declination, the lowest reading corresponds in both hemispheres to the extreme westerly position of that end of the magnet bar which is directed towards the north; in the case of the Horizontal and Vertical Force Magnets, the lowest reading implies the weakest force; the differences at the other hours are expressed, in the Declination, in minutes of Arc, and in the Horizontal and Vertical Force, in parts of those forces respectively.

TORONTO.—Diurnal oscillation of the Declination, 1841.

The actual Times of Observation were more precisely 2½ minutes before the hours specified.

Mean Time at the Station.	WINTER HALF-YEAR.						SUMMER HALF-YEAR.						MEANS.	
	January.	February.	March.	October.	November.	December.	April.	May.	June.	July.	August.	September.	Winter.	Summer.
Hrs.	′	′	′	′	′	′	′	′	′	′	′	′	′	′
0	2·10	2·21	1·69	0·59	0·15	0·84	1·96	1·21	1·16	1·44	0·51	1·01	1·26	1·21
2	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00
4	0·63	0·94	2·00	2·56	2·02	2·64	2·49	2·16	2·26	2·46	3·55	3·40	1·80	2·72
6	2·86	2·82	4·25	5·10	4·70	6·45	5·45	5·19	5·62	5·58	5·58	4·79	4·36	5·37
8	5·63	5·00	5·72	6·62	6·08	6·78	7·43	6·74	7·30	7·09	9·30	7·40	5·97	7·54
10	5·02	7·08	6·48	6·65	5·07	5·62	8·76	6·98	6·62	7·82	11·05	6·55	5·99	7·96
12	5·63	5·49	6·62	5·92	5·13	5·27	8·21	5·83	7·17	9·11	7·79	8·31	4·68	7·74
14	5·02	4·21	5·98	6·65	5·05	4·09	8·87	6·19	6·20	7·82	8·11	7·79	5·17	7·50
16	4·92	5·91	7·31	6·64	5·13	4·89	9·25	7·10	7·45	7·89	7·64	7·96	5·80	7·88
18	3·26	5·95	7·66	5·54	3·43	5·54	10·38	10·17	11·56	11·24	12·26	9·24	5·23	10·81
20	5·16	6·95	9·23	7·10	5·70	4·38	11·11	10·40	12·27	12·84	13·38	9·78	6·42	11·63
22	6·09	6·39	7·18	5·80	3·63	4·39	8·02	6·96	6·48	8·28	7·68	5·10	5·58	7·09

VAN DIEMEN ISLAND.—Diurnal oscillation of the Declination, 1841.

The actual Times of Observation were more precisely 10 minutes after the hours specified.

Mean Time at the Station.	WINTER HALF-YEAR.						SUMMER HALF-YEAR.						MEANS.	
	April.	May.	June.	July.	August.	October.	January.	February.	March.	October.	November	December.	Winter.	Summer.
Hrs.	′	′	′	′	′	′	′	′	′	′	′	′	′	′
0	3·74	1·83	1·81	2·27	2·87	3·91	9·01	6·42	7·47	7·26	7·48	7·55	2·74	7·53
2	6·74	4·73	3·58	4·76	5·08	7·00	12·77	8·42	10·07	10·49	11·14	11·36	5·31	10·71
4	5·20	4·25	3·07	3·95	5·03	6·10	10·35	7·31	8·29	9·16	9·73	9·94	4·60	9·13
6	2·84	2·46	1·72	1·97	2·97	3·14	7·72	5·32	5·22	5·89	7·06	7·33	1·52	6·42
8	1·61	0·32	0·72	1·05	1·22	1·16	6·29	4·34	3·86	3·91	4·20	5·66	1·01	4·71
10	0·89	0·17	0·00	0·02	0·00	0·63	4·34	2·67	2·83	2·45	2·09	4·24	0·28	3·10
12	1·10	0·25	0·37	0·55	0·50	1·38	4·59	1·39	2·85	2·32	2·63	2·83	0·69	2·77
14	2·43	1·10	0·83	0·74	0·60	0·75	4·03	1·70	2·91	4·19	4·00	3·15	1·07	3·33
16	2·24	1·82	1·53	2·64	1·64	2·98	4·02	2·02	3·45	4·00	4·22	3·51	2·14	3·59
18	2·51	1·64	1·44	1·82	2·04	2·61	2·00	0·13	2·54	2·69	2·35	2·53	2·01	2·04
20	0·56	1·48	1·70	1·55	1·93	0·55	0·00	0·00	0·00	0·00	0·00	0·00	1·19	0·00
22	0·00	0·00	0·97	0·00	0·84	0·00	1·82	1·64	1·76	1·38	1·40	1·61	0·30	1·53

The observations at Van Diemen Island were made hourly, but the alternate ones only have been taken on this occasion, for the sake of the comparison with Toronto, where during the year 1841 two-hourly observations only were made.

On examining the Table for Toronto, we perceive as follows:—

The march of the regular diurnal oscillation does not consist in a simple movement from one extremity of the range to the other, and back, as has been supposed even at a very recent date,* but in an alternate progression and retrogression.

In tracing the course of the oscillation, we may commence with 2 P.M., because in every month of the year, without exception, the north end of the bar is then more to the west, than at any other observation hour. Dating from 2 P.M, the movement is continuous towards the east, until 10 P.M.; when the bar returns towards the west, and reaches, at 2 A.M., a second westerly limit; which, however, is nearer the eastern than the western extremity of the whole diurnal range, in consequence of the retrogression, or westerly movement at this period of the 24 hours, being comparatively of small amount. A second progression towards the east then commences, and continues until 8 A.M., having a much more decided character in the summer than in the winter months, both in its amount, and in the precise hour at which it reaches its limit. From 8 A.M. till 2 P.M., the return is continuous towards the west.

The observation hours which have been named as those at which the alternate movements terminate, *viz.*, the westerly at 2 A.M. and 2 P.M., and the easterly at 10 P.M. and 8 A.M., are indicated alike by the means both of the summer and of the winter half-years; when examined more in detail, there appears a somewhat less regularity in the periods during the nocturnal hours, than during those when the Sun is above the horizon.

The range of the diurnal fluctuation is throughout greater in the summer than in the winter months: this is particularly the case with the easterly movement, which takes place from 2 A.M. to 8 A.M., and the subsequent return. The progressive increase in the extent of this movement may be clearly traced from the mid-winter, when it is barely perceptible, to the mid-summer, when it is very considerable. It is a consequence of this inequality, that in two of the mid-winter months, the *evening* eastern limit becomes the eastern extremity of the whole diurnal range, which is formed in every other month of the year by the *morning* eastern limit.

If we now refer to the Table of the diurnal oscillation of the Declination at Van Diemen Island, we find that its course corresponds with that at Toronto in all the principal features, with one essential distinction, *viz.*, that the hours of easterly movement at Toronto, are those of westerly movement at Van Diemen Island, and *vice versâ*; the north end of the bar being in both cases the one of which the motion is noticed, and the hours being those of mean time at the respective stations. The diurnal range is nearly the same at both places, (rather less at Van Diemen Island), and there is at both

* Arago; Annuaire pour l'an 1836, p. 283.

a similar inequality in its amount in summer and winter. The alternate progression and retrogression are as distinctly marked, and the hours indicated as the turning points are either the same at both stations, or with such slight differences, as cannot be insisted upon, until observation, by its increased frequency and repetition, shall press more closely upon the phenomena.

The next Tables exhibit a similar view of the diurnal oscillation of the Horizontal and Vertical components of the Force at Toronto, derived from the two-hourly observations, corrected for the temperature of the bar, and expressed in terms of the respective forces. An approximate coefficient has been employed in the temperature correction of the Vertical Force observations. Similar Tables for the Van Diemen Island Observatory cannot be prepared, until the observations can be corrected for the temperature of the Magnet bars.

TORONTO.—Diurnal oscillation of the Horizontal Force, 1841.

The actual Times of Observation were at the hours specified.

Mean Time at the Station.	WINTER HALF-YEAR.						SUMMER HALF-YEAR.						MEANS.	
	January.	February.	March.	October.	November.	December.	April.	May.	June.	July.	August.	September.	Winter.	Summer.
Hrs.														
0	·00000	·00000	·00000	·00000	·00001	·00000	·00000	·00052	·00065	·00013	·00070	·00093	·00000	·00049
2	·00051	·00036	·00096	·00092	·00062	·00069	·00147	·00156	·00145	·00139	·00211	·00194	·00068	·00165
4	·00127	·00112	·00150	·00143	·00105	·00109	·00209	·00226	·00188	·00184	·00263	·00236	·00124	·00218
6	·00134	·00125	·00119	·00130	·00096	·00084	·00210	·00204	·00159	·00162	·00205	·00213	·00115	·00192
8	·00115	·00089	·00097	·00106	·00078	·00086	·00141	·00150	·00090	·00076	·00096	·00205	·00095	·00126
10	·00087	·00107	·00084	·00089	·00056	·00087	·00142	·00131	·00072	·00062	·00072	·00160	·00085	·00106
12	·00084	·00085	·00074	·00063	·00033	·00081	·00133	·00124	·00077	·00055	·00077	·00154	·00070	·00103
14	·00100	·00094	·00088	·00103	·00017	·00071	·00155	·00118	·00088	·00064	·00067	·00132	·00079	00104
16	·00097	·00103	·00087	·00113	·00053	·00077	·00156	·00122	·00062	·00067	·00090	·00118	·00088	·00102
18	·00135	·00121	·00099	·00102	·00058	·00129	·00158	·00126	·00103	·00073	·00114	·00179	·00107	·00125
20	·00149	·00104	·00063	·00058	·00046	·00082	·00090	·00072	·00057	·00056	·00093	·00124	·00084	·00082
22	·00103	·00040	·00002	·00021	·00000	·00051	·00003	·00000	·00000	·00000	·00000	·00000	·00036	·00000

TORONTO.—Diurnal oscillation of the Vertical Force, 1841.

The actual Times of Observation were more precisely 5 minutes before the hours specified.

Mean Time at the Station.	WINTER HALF-YEAR.						SUMMER HALF-YEAR.						MEANS.	
	January.	February.	March.	October.	November.	December.	April.	May.	June.	July.	August.	September.	Winter.	Summer.
Hrs.														
0	·00012	·00017	·00025	·00038	·00032	·00013	·00018	·00013	·00001	·00020	·00048	·00044	·00023	·00024
2	·00030	·00034	·00040	·00055	·00044	·00029	·00039	·00033	·00018	·00035	·00065	·00063	·00039	·00042
4	·00039	·00047	·00060	·00065	·00052	·00035	·00056	·00057	·00048	·00054	·00081	·00059	·00050	·00059
6	·00041	·00052	·00069	·00064	·00059	·00043	·00069	·00059	·00056	·00062	·00099	·00074	·00055	·00070
8	·00041	·00049	·00067	·00060	·00050	·00034	·00057	·00049	·00047	·00058	·00083	·00064	·00050	·00060
10	·00035	·00043	·00052	·00048	·00020	·00024	·00044	·00040	·00027	·00031	·00044	·00043	·00037	·00038
12	·00018	·00024	·00026	·00016	·00017	·00014	·00015	·00016	·00006	·00008	·00027	·00038	·00019	·00018
14	·00007	·00005	·00000	·00000	·00000	·00000	·00013	·00014	·00003	·00000	·00000	·00010	·00002	·00007
16	·00000	·00005	·00006	·00006	·00018	·00005	·00000	·00001	·00004	·00006	·00012	·00000	·00007	·00004
18	·00001	·00001	·00013	·00021	·00000	·00007	·00006	·00005	·00010	·00009	·00033	·00014	·00007	·00013
20	·00013	·00002	·00018	·00024	·00024	·00009	·00012	·00004	·00009	·00014	·00023	·00042	·00015	·00017
22	·00004	·00000	·00013	·00023	·00023	·00000	·00010	·00000	·00000	·00014	·00034	·00045	·00010	·00017

From these Tables we collect the following particulars:—The diurnal oscillation of the horizontal force consists in an alternate increase and decrease of the force, forming two maxima and two minima in the twenty-four hours. The principal minimum, or the least force at any of the observation hours, occurs at 10 A.M. in the summer half-year, and at noon in the winter half-year. The principal maximum is at 4 or 6 P.M., except in mid-winter, when the afternoon oscillation is so much reduced in amount that the other maximum, which occurs throughout the year at 6 or 8 A.M., becomes, in the months of December and January, the principal maximum. The second minimum takes place during the hours of the night, or from 10 P.M. to 4 A.M., during which period the force is nearly stationary. The whole diurnal oscillation is altogether greater in summer than in winter, and the alternate increase and decrease twice in the twenty-four hours shows itself in the mean of every month of the year with slight variations in the times of the turning points.

The maximum of the vertical force takes place at 6 P.M., and the minimum at 2 or 4 A.M. A second maximum at 8 A.M. and minimum at 10 A.M. are also traceable in some of the months, but a longer period of observation and a more accurate determination of the coefficient in the temperature correction, are requisite for a satisfactory conclusion on this point.

On a review of the accord which shows itself in the diurnal march of each element in the different months, we may feel justified in regarding the mean monthly positions at the several observation hours as approximate normal positions; and we may view the difference between the actual position at any hour during the month, and the normal position at the same hour, as the effect of disturbing causes.

If we represent the Declination observed at the several hours on any particular day by $\psi_0, \psi_2, \psi_4 \ldots \psi_{22}$, (the small figures showing the hours of observation in mean Göttingen time,) and the *mean* values at the respective hours in the *month* to which the day belongs, by $\overline{\psi}_0, \overline{\psi}_2, \overline{\psi}_4 \ldots \overline{\psi}_{22}$; then $\psi_0 - \overline{\psi}_0$ will be the effect of the irregular disturbing force at 0 hours, which we may represent by $\nabla \psi_0$; $\psi_2 - \overline{\psi}_2 = \nabla \psi_2$ is the same at 2 hours; and so forth to $\psi_{22} - \overline{\psi}_{22} = \nabla \psi_{22}$ at 22 hours; the regular or diurnal oscillation of the bar being by this process eliminated. The *fluctuation* of the Declination due to the irregular action between the observations at 0 and at 2 hours will then be $\nabla \psi_2 - \nabla \psi_0$, which we may express by $\mathrm{F}(\psi_2)$; the fluctuation between the observations at 2 and 4 hours $\nabla \psi_4 - \nabla \psi_2 = \mathrm{F}(\psi_4)$; and so forth: and the *mean* irregular fluctuation for the whole day will be $\overline{\mathrm{F}\psi} = \sqrt{\frac{1}{12}\Sigma(\mathrm{F}\psi)^2}$ if the number of observation hours have been 12. In like manner the mean irregular fluctuation for the several months in the year will be

$$\overline{\mathrm{F}\psi}_{\text{Jan.}} = \sqrt{\frac{1}{n}\Sigma(\mathrm{F}\psi_{\text{Jan.}})^2};\ \overline{\mathrm{F}\psi}_{\text{Feb.}} = \sqrt{\frac{1}{n}\Sigma(\mathrm{F}\psi_{\text{Feb.}})^2};\ \text{\&c.}$$

and the mean irregular fluctuation for the year (1841 for example) will be

$$\overline{\mathrm{F}\psi}_{1841} = \sqrt{\frac{1}{n}\Sigma(\mathrm{F}\psi_{1841})^2}.$$

In this notation the horizontal bar over the symbols is employed to signify mean values, the particular kind of mean appearing either from the circumstances, or being denoted by the smaller figures; and the horizontal part of the symbol ∇ implies the relation to mean values. The notation is equally applicable to the horizontal and vertical force, of which the absolute values are characterized by X and Z.

The following letters exhibit the values of $\overline{\mathrm{F}(\psi)}$ and $\overline{\mathrm{F}(\mathrm{X})}$ for every day in 1841 in which observations were made at Toronto and Van Diemen Island; also the mean monthly fluctuation for the several months, and the mean annual fluctuation. All the observations of the horizontal force at Toronto have been reduced to a common temperature: those at Van Diemen Island are necessarily uncorrected.

Table showing the Mean Fluctuation of the Declination and Horizontal Force at and the Mean

Days of the Month.*	JANUARY.		FEBRUARY.		MARCH.		APRIL.		MAY.		JUNE.	
	Decl.	Hor. Force.	Decl.	Hor. Force.	Decl.	Hor. Force.	Decl.	Hor. Force.	Decl.	Hor. Force.	Decl.	Hor. Force.
	′		′		′		′		′		′	
1	2·3	·00036	1·7	·00039	2·1	·00076	1·0	·00055	2·9	·00103	1·9	·00062
2	1·7	·00051	1·3	·00022	1·4	·00055	1·7	·00043	Sunday.		1·9	·00115
3	Sunday.		1·6	·00030	1·7	·00027	2·0	·00095	1·5	·00030	2·6	·00072
4	1·2	·00017	1·6	·00049	1·9	·00026	Sunday.		2·1	·00065	3·2	·00053
5	1·1	·00037	1·1	·00024	1·6	·00045	2·2	·00043	4·8	·00091	3·1	·00070
6	2·6	·00047	2·7	·00031	3·3	·00069	1·9	·00033	5·1	·00079	Sunday.	
7	3·1	·00063	Sunday.		Sunday.		2·4	·00040	1·9	·00076	3·2	·00064
8	2·6	·00095	2·3	·00055	1·1	·00060	4·9	·00144	1·6	·00097	1·2	·00044
9	1·1	·00042	12·9	·00109	1·1	·00035	Good Friday.		Sunday.		4·8	·00066
10	Sunday.		1·7	·00038	1·4	·00043	1·4	·00032	9·7	·00198	2·6	·00045
11	1·9	·00038	2·4	·00059	3·6	·00061	Sunday.		2·2	·00058	4·5	·00063
12	2·2	·00060	5·9	·00084	1·4	·00027	3·9	·00144	2·8	·00077	1·9	·00070
13	5·3	·00047	2·2	·00037	1·7	·00018	1·4	·00037	1·4	·00052	Sunday.	
14	4·2	·00070	Sunday.		Sunday.		3·3	·00049	3·7	·00070	1·9	·00045
15	4·0	·00054	5·8	·00078	8·3	00160	1·3	·00036	1·4	·00056	5·0	·00090
16	4·1	·00045	3·7	·00075	4·5	·00097	5·1	·00042	Sunday.		1·7	·00049
17	Sunday.		1·7	·00023	2·1	·00098	3·8	·00113	3·6	·00081	3·0	·00125
18	1·7	·00032	1·4	·00051	1·9	·00060	Sunday.		2·8	·00110	5·3	·00088
19	2·9	·00073	1·1	·00030	2·6	·00045	2·7	·00102	4·6	·00090	1·7	·00044
20	2·4	·00044	1·3	·00053	4·8	·00036	5·2	·00139	4·0	·00051	Sunday.	
21	2·7	·00060	Sunday.		Sunday.		3·5	·00087	4·7	·00093	1·7	·00067
22	1·3	·00032	4·2	·00084	10·3	·00283	2·4	·00036	2·9	·00109	3·4	·00107
23	1·7	·00039	10·4	·00103	3·4	·00101	2·1	·00033	Sunday.		5·6	·00052
24	Sunday.		3·7	·00064	3·1	·00075	2·0	·00092	1·5	·00048	4·1	·00087
25	7·1	·00077	3·7	·00051	2·9	·00050	Sunday.		*	·00038	4·9	·00178
26	3·2	·00093	7·5	·00134	2·7	·00066	2·9	·00052	*	·00101	1·4	·00036
27	3·5	·00123	3·2	·00064	1·3	·00049	2·0	·00074	4·1	·00033	Sunday.	
28	2·7	·00028	Sunday.		Sunday.		2·4	·00032	2·2	·00075	3·4	·00061
29	1·7	·00036			3·7	·00116	3·8	·00049	4·9	·00055	3·1	·00157
30	2·0	·00047			1·5	·00079	3·5	·00090	Sunday.		2·1	·00152
31	Sunday.				1·4	·00024			6·5	·00060		
Mean Monthly Fluctuations.	3·06	·00058	4·70	·00065	3·52	·00088	3·00	·00071	3·83	·00084	3·35	·00089

Mean Annual Fluctuation of the Declination 3′·39;

*The Declination Magnetometer was not in adjustment on the 25th and 26th of May, in consequence of the suspension thread breaking.

Toronto on the several Days in the Year 1841; also the Mean Monthly Fluctuations, Annual Fluctuation.

JULY.		AUGUST.		SEPTEMBER.		OCTOBER.		NOVEMBER.		DECEMBER.		Days of the Month.
Decl.	Hor. Force.	Decl.	Hor. Force.	Decl.	Hor. Force.	Decl.	Hor. Force.	Decl.	Hor. Force.	Decl.	Hor. Force.	
′		′		′		′		′		′		
1·7	·00112	Sunday.		3·5	·00074	1·7	·00036	1·1	·00035	1·4	·00066	1
2·1	·00065	5·4	·00093	3·5	·00084	2·3	·00055	2·9	·00015	3·7	·00101	2
2·7	·00039	2·3	·00069	2·6	·00045	Sunday.		4·2	·00043	5·9	·00157	3
Sunday.		2·4	·00067	2·6	·00057	1·4	·00028	4·5	·00097	3·2	·00096	4
4·6	·00074	2·9	·00095	Sunday.		4·0	·00082	4·1	·00178	Sunday.		5
6·8	·00134	16·4	·00303	1·4	·00035	3·5	·00094	6·7	·00160	4·8	·00062	6
1·6	·00043	2·7	·00141	2·7	·00055	3·7	·00059	Sunday.		2·1	·00063	7
2·2	·00042	Sunday.		1·6	·00037	4·2	·00082	2·8	·00064	4·5	·00133	8
1·4	·00043	3·2	·00039	1·4	·00045	3·2	·00115	1·7	·00049	1·7	·00059	9
1·6	·00074	2·4	·00046	1·1	·00062	Sunday.		1·7	·00039	5·9	·00084	10
Sunday.		5·0	·00110	1·2	·00048	2·2	·00065	2·6	·00194	1·4	·00029	11
2·4	·00048	4·7	·00106	Sunday.		1·5	·00052	1·4	·00043	Sunday.		12
2·1	·00047	2·4	·00062	4·5	·00126	2·8	·00063	2·0	·00039	1·5	·00036	13
3·5	·00083	3·4	·00124	2·8	·00263	3·7	·00066	Sunday.		9·1	·00138	14
2·6	·00070	Sunday.		1·7	·00052	2·0	·00035	1·5	·00048	1·5	·00029	15
1·7	·00122	5·9	·00077	5·6	·00070	4·2	·00049	1·1	·00031	2·4	·00090	16
2·6	·00049	2·8	·00077	2·7	·00042	Sunday.		2·6	·00030	3·2	·00062	17
Sunday.		2·9	·00071	4·9	·00080	2·6	·00095	7·0	·00251	1·2	·00062	18
7·8	·00098	3·0	·00062	Sunday.		3·2	·00064	7·7	·00090	Sunday.		19
4·1	·00141	1·7	·00055	1·7	·00065	7·8	·00122	6·8	·00148	1·9	·00038	20
6·7	·00062	2·8	·00096	2·0	·00040	4·6	·00126	Sunday.		1·2	·00034	21
4·1	·00044	Sunday.		2·6	·00074	1·9	·00048	2·6	·00050	6·1	·00034	22
2·4	·00100	8·6	·00115	1·5	·00033	1·1	·00048	1·3	·00064	3·2	·00027	23
5·0	·00224	3·1	·00057	7·1	·00198	Sunday.		4·5	·00080	3·8	·00042	24
Sunday.		2·7	·00053	21·9	·00515	8·2	·00122	1·3	·00020	Christmas Day.		25
2·9	·00065	11·4	·00065	Sunday.		4·3	·00097	1·6	·00030	Sunday.		26
4·8	·00066	7·8	·00066	5·8	·00156	2·2	·00130	1·6	·00028	1·0	·00036	27
2·4	·00059	5·8	·00081	5·0	·00213	1·3	·00039	Sunday.		1·7	·00033	28
1·6	·00070	Sunday.		4·8	·00164	3·6	·00053	1·3	·00021	1·3	·00025	29
1·9	·00048	†	·00036	4·5	·00072	1·4	·00035	1·4	·00027	4·8	·00160	30
4·6	·00032	6·0	·00109			Sunday.				3·1	·00062	31
3·72	·00083	5·83	·00103	5·18	·00133	3·40	·00079	3·54	·00094	3·73	·00083	Mean Monthly Fluctuations.

of the Horizontal Force ·00086.

† The Declination Magnetometer was not in adjustment on the 30th of August, in consequence of a fibre of the suspension thread having broken; a new suspension thread was fitted.

Table showing the Mean Fluctuation of the Declination and Horizontal Force at Fluctuations, and the

Days of the Month.	JANUARY.		FEBRUARY.		MARCH.		APRIL.		MAY.		JUNE.	
	Decl.	Hor. Force.	Decl.	Hor. Force.	Decl.	Hor. Force.	Decl.	Hor. Force.	Decl.	Hor. Force.	Decl.	Hor. Force.
	′		′		′		′				′	
1	2·4	·0006	2·1	·0004	1·6	·0004	1·1	·0004	Sunday.		0·8	·0004
2	Sunday.		1·6	·0004	1·1	·0003	1·1	·0004	0·9	·0002	0·6	·0003
3	2·0	·0006	2·0	·0003	1·4	·0003	Sunday.		2·0	·0002	0·6	·0003
4	1·7	·0003	0·6	·0004	0·9	·0003	0·9	·0004	1·5	·0006	1·1	·0004
5	1·2	·0004	1·3	·0002	0·9	·0002	1·3	·0002	0·8	·0007	Sunday.	
6	2·1	·0009	Sunday.		Sunday.		1·1	·0003	1·7	·0004	0·9	·0003
7	3·1	·0006	3·4	·0009	2·3	·0005	1·1	·0006	1·1	·0003	1·1	·0004
8	1·7	·0004	1·8	·0007	1·3	·0004	1·5	·0003	Sunday.		0·8	·0002
9	Sunday.		5·5	·0005	1·0	·0003	1·1	·0002	3·5	·0013	1·6	·0007
10	1·7	·0004	1·1	·0002	1·1	·0003	Sunday.		4·9	·0013	0·8	·0002
11	1·2	·0004	1·6	·0003	1·2	·0003	1·6	·0006	1·1	·0004	0·5	·0004
12	2·3	·0006	1·7	·0004	1·0	·0004	1·1	·0006	1·4	·0006	Sunday.	
13	1·7	·0007	Sunday.		Sunday.		1·4	·0004	0·6	·0002	0·9	·0003
14	2·7	·0004	1·7	·0006	3·1	·0010	1·2	·0003	0·7	·0002	1·1	·0002
15	1·8	·0004	4·6	·0010	3·8	·0013	1·4	·0001	Sunday.		1·8	·0004
16	Sunday.		3·7	·0006	2·5	·0006	1·3	·0002	2·0	·0005	1·2	·0002
17	1·1	·0004	1·8	·0004	2·0	·0004	Sunday.		3·0	·0004	1·3	·0006
18	1·2	·0006	1·4	·0003	0·8	·0005	1·8	·0009	2·3	·0004	3·0	·0004
19	5·0	·0006	0·5	·0005	2·4	·0004	2·7	·0007	1·1	·0003	Sunday.	
20	1·4	·0005	Sunday.		Sunday.		2·8	·0009	1·3	·0006	0·8	·0003
21	1·3	·0005	0·8	·0003	2·1	·0005	2·2	·0005	3·4	·0006	0·8	·0002
22	2·1	·0005	4·1	·0011	7·6	·0011	1·5	·0008	Sunday.		0·8	·0002
23	Sunday.		3·8	·0007	5·1	·0007	0·7	·0003	0·9	·0003	0·8	·0003
24	0·8	·0004	1·3	·0010	2·5	·0004	Sunday.		0·6	·0001	1·1	·0003
25	1·7	·0008	2·1	·0005	1·6	·0005	1·3	·0004	0·9	·0003	2·8	·0004
26	2·0	·0007	3·8	·0010	0·8	·0004	1·9	·0003	1·3	·0005	Sunday.	
27	2·3	·0008	Sunday.		Sunday.		0·6	·0004	2·1	·0004	0·8	·0002
28	1·5	·0004	3·0	·0010	1·5	·0004	0·7	·0003	1·5	·0002	0·7	·0008
29	1·3	·0004			1·2	·0004	0·8	·0004	Sunday.		1·1	·0007
30	Sunday.				2·3	·0006	2·1	·0006	0·6	·0002	0·7	·0005
31	2·5	·0006			0·8	·0001			0·8	·0004		
Mean Monthly Fluctuations.	2·00	·00055	2·5	·00051	2·53	·00055	1·49	·00048	1·97	·00054	1·31	·00038

Mean Annual Fluctuation of the Declination 2′·02;

Van Diemen Island, on the several Days in the Year 1841; also the Mean Monthly Mean Annual Fluctuation.

JULY.		AUGUST.		SEPTEMBER.		OCTOBER.		NOVEMBER.		DECEMBER.		Days of the Month.
Decl.	Hor. Force.	Decl.	Hor. Force.	Decl.	Hor. Force.	Decl.	Hor. Force.	Decl.	Hor. Force.	Decl.	Hor. Force.	
′		′		′		′		′		′		
0·8	·0002	1·0	·0002	2·3	·0004	1·3	·0004	0·9	·0004	1·9	·0003	1
0·6	·0003	1·7	·0004	2·0	·0005	Sunday.		0·9	·0003	2·6	·0006	2
Sunday.		2·1	·0010	1·3	·0004	1·5	·0006	3·1	·0007	4·8	·0005	3
0·9	·0003	0·8	·0004	Sunday.		0·9	·0002	2·4	·0011	Sunday.		4
2·3	·0006	1·8	·0004	0·8	·0002	1·3	·0007	2·5	·0010	1·3	0003	5
2·1	·0005	6·1	·0013	1·1	·0003	1·6	·0004	Sunday.		1·6	·0005	6
0·8	·0002	Sunday.		1·4	·0004	1·5	·0005	1·3	·0005	1·6	·0005	7
0,6	·0003	0·5	·0004	1·2	·0003	3·8	·0013	1·6	·0005	4·5	·0007	8
0·8	·0002	0·8	·0002	1·0	·0003	Sunday.		1·6	·0002	2·2	·0004	9
Sunday.		1·0	·0003	0·6	·0003	1·5	·0003	1·2	·0005	1·5	·0003	10
1·6	·0002	2·3	·0006	Sunday.		1·1	·0004	2·6	·0008	Sunday.		11
1·3	·0003	1·5	·0010	1·7	·0005	1·0	·0003	2·1	·0003	1·4	·0004	12
1·2	·0002	0·9	·0003	2·8	·0013	1·3	·0004	Sunday.		1·5	·0005	13
3·1	·0003	Sunday.		1·7	·0004	0·8	·0003	1·4	·0004	2·7	·0008	14
2·3	·0004	1·8	·0006	0·8	·0004	0·8	·0003	1·3	·0004	0·6	·0005	15
0·8	·0002	1·1	·0006	1·8	·0005	Sunday.		1·4	·0005	1·9	·0004	16
Sunday.		1·0	·0003	0·6	·0004	1·1	·0005	2·5	·0013	2·7	·0006	17
0·8	·0003	1·1	·0003	Sunday.		1·3	·0007	2·3	·0014	Sunday.		18
1·5	·0007	0·9	·0002	1·1	·0003	1·1	·0004	5·2	·0010	1·6	·0004	19
4·5	·0003	0·9	·0002	1·7	·0005	1·9	·0007	Sunday.		1·4	·0002	20
0·8	·0007	Sunday.		0·8	·0004	1·7	·0009	1·7	·0003	1·3	·0002	21
2·1	·0006	1·6	·0008	0·6	·0004	0·9	·0001	3·3	·0003	1.2	·0006	22
1·8	·0006	3·3	·0004	1·0	·0003	Sunday.		1·5	·0004	1·3	·0005	23
Sunday.		1·8	·0005	4·3	·0011	2·8	·0007	1·9	·0005	1·4	·0006	24
0·6	·0004	1·2	·0002	Sunday.		2·7	·0007	2·1	0003	Sunday.		25
1·3	·0004	2·6	·0006	1·4	·0004	2·8	·0008	1·6	·0007	1·1	·0003	26
1·5	·0003	2·8	·0005	2·0	·0011	1·4	·0005	Sunday.		0·8	·0002	27
0·8	·0003	Sunday.		3·0	·0012	3·3	·0004	1·1	·0007	2·3	·0003	28
0·9	·0002	1·3	·0007	4·0	·0005	1·4	·0007	1·7	·0003	1·8	·0004	29
0·8	·0002	1·9	·0002	2·0	·0002	Sunday.		1·3	·0004	3·5	·0010	30
Sunday.		2·0	·0007			1·3	·0005			1·3	·0005	31
1·71	·00039	2·03	·00058	1·92	·00060	1·83	·00059	2·21	·00069	2·20	·00050	Mean Monthly Fluctuations.

of the Horizontal Force ·00054.

A cursory examination of these tables is sufficient to show that some connexion exists between the disturbances of principal magnitude at Toronto and those at Van Diemen Island. If twenty or thirty of the most disturbed days in the year be selected from each of the stations, the days will be found to be for the most part the same at both; and the three days of most remarkable disturbance at Van Diemen Island, *viz.*, the 22nd March, 10th May, and 6th of August, are also the most disturbed days at Toronto, (excepting the 25th September, which, falling on Sunday at Van Diemen Island, is excluded from the comparison).

Another circumstance which cannot fail to be noticed, even on a mere inspection, is the general inferiority in amount of the disturbances at Van Diemen Island when compared with those at Toronto; an inferiority which shows itself both in the Horizontal Force and in the Declination. The fluctuation from one hour of observation to the next, on the average of the whole year, is, at Toronto, of the Declination $3'\cdot99$, and of the Horizontal Force $\cdot00086$; at Van Diemen Island, Declination $2'\cdot02$, Horizontal Force $\cdot00054$; and if portions of the year taken in corresponding seasons be compared, the inequality will be found to be generally nearly in the same proportion. The extra observations which are made at both Observatories, at short intervals, on days of unusual disturbance, afford also consistent evidence of the lesser effect which the disturbing influences produce at Van Diemen Island. The Magnetic relations of the two stations,—those at least which might be supposed to have the principal influence on the comparative effect of disturbing forces,—do not so greatly differ; the terrestrial magnetic intensity is nearly the same at both stations; the inclination is—70° 40′ at Van Diemen Island, 75° 10′ at Toronto; the component of the force which acts on the bar in its horizontal position is $4\cdot5$ at Van Diemen Island, $3\cdot5$ at Toronto. The range of the regular diurnal oscillation, though somewhat less at Van Diemen Island than at Toronto, approaches much nearer an equality than the irregular fluctuation. Though in nearly corresponding latitudes, the two stations differ considerably in other geographical circumstances which materially affect climatological relations: Toronto is situated in the interior of a great continent, and Van Diemen Island, though in the neighbourhood of land of great extent, is surrounded in all other directions by an expanse of ocean. These circumstances may not be undeserving of notice, though no connexion has yet been established between climatological and magnetic influences. That there should be a fluctuation of nearly four minutes of arc in the Declination, and of nearly $\frac{1}{100}^{\text{th}}$ part of the whole horizontal force, on the average of the year, between one two-hourly observation and the succeeding one (as appears to be the case at Toronto),—arising from causes, and subject to laws, of which we have at present no knowledge whatsoever,—is a circumstance which cannot fail to draw the attention of Magneticians even more strongly than hitherto to the subject of the irregular disturbances. Refinements in instruments, particularly the precautions which have been adopted since 1841 to prevent the generation

of currents of air within the external magnetometer case, may possibly in succeeding years somewhat diminish the value of the mean fluctuations which have been derived from the observations of 1841; but the correspondence which has been stated to exist, and which may be pursued in detail in the Observations contained in this volume, in the times of the occurrence of the disturbances (of those of principal magnitude at least), at stations so widely remote from each other as Toronto and Van Diemen Island, and so opposed in season and horary angle, appear fully to justify the persuasion, that the fluctuations, of which we have sought to obtain at least approximate mean values, are actual natural phenomena, and not, as some have imagined, mere instrumental deceptions.

Further evidence of the generality of these phenomena may be obtained by comparing the days of principal disturbance at Prague with those at Toronto and Van Diemen Island. At Prague, as at the British Colonial Observatories, observations at short intervals are commenced whenever the attention of the Director is arrested by the occurrence of a change of more than usual magnitude between one regular observation and the next; and are continued until the fluctuations assume again their ordinary character. The disturbance observations at Prague are printed in detail, and in a form very similar to that which has been adopted in this volume, in a separate section of the "Magnetische und Meteorologische Beobachtungen zu Prag" now in course of publication, by M. Kreil, Director of the Observatory. This portion of the work has not yet advanced beyond November, 1840; but the volume in which it is comprised contains also a table, in which the relative magnitude of the disturbance at the observation hours on every day from July, 1839, to June, 1841, inclusive, is given both in Declination and Horizontal Intensity; and M. Kreil has been so obliging as to furnish me with a MS. continuation to the end of December, 1841. In this table the days of disturbance are marked by an asterisk(*), and the day of greatest disturbance in each month is marked thus (*☽). The days which M. Kreil characterizes as days of disturbance are those in which the sum of the fluctuations from one observation hour to the next throughout the twenty-four hours, including both the irregular and diurnal changes, equals or exceeds the double of the sum of the corresponding fluctuations derived from the mean monthly positions at the same hours. This mode of comparison serves to show, equally with the one which has been adopted in this volume, the days in each month when the irregular fluctuation deduced from the usual observation hours has been greatest, and will answer therefore the present purpose; though inasmuch as in M. Kreil's method the unit of comparison varies in different months, an amount of irregular fluctuation which may constitute a day of disturbance in one month might not do so in another.

The days on which the extra observations recorded in this volume were made at Toronto and Van Diemen Island are inserted in the following table; and the final column shows the character attached to the same day in M. Kreil's Table. The com-

parison is limited to 1841 because the Van Diemen Island Observatory can scarcely be considered to have been in regular action before the commencement of that year.

1841.	Days of Extra Observation at		Days of Disturbance at Prague.
	Toronto.	Van Diemen Island.	
Jan. 13	13	None	13 * Decl. and * ☽ H. F.
„ 18 & 19	18	19	18 * H. F.; 19 * Decl., and * H. F.
„ 25, 26, & 27	25, 26, & 27	None	25 * H. F.; 26 * Decl., and * H. F.; 27 * H. F.
Feb. 7	(Sunday)	7	7 * Decl. and * H. F.
„ 9	9	9	9 * ☽ Decl. and * H. F.
„ 15	15	15	15 * Decl. and * H. F.
„ 22 & 23	23	22	22 not dist.; 23 * Decl., and * H. F.
„ 26	26	26	26 * Decl. and * ☽ H. F.
March 14, 15, & 16	14, 15	15, 16	14 * H. F.; 15 * Decl. and * H. F.; 16 * H. F.
„ 22 & 23	22	22	22 * ☽ Decl. and * H. F.; 23 * Decl. and * ☽ H. F.
April 18, 19, & 20	None	18, 19, 20	18 * H. F.; 19 not dist.; 20 * ☽ H. F.
May 10	10	10	10 * ☽ Decl. and * ☽ H. F.
July 19 & 20	19	20	19 not dist.; 20 * ☽ Decl., and * H. F.
Aug. 2 & 3	2	3	2 not dist.; 3 * H. F.
„ 6	6	6	6 * ☽ H. F.
„ 23	23	23	23 * H. F.
„ 27	27	27	27 * H. F.
„ 31, & Sept. 1	31	1	31 not dist.; 1 * H. F.
Sept. 12 & 13	13	12, 13	12 * H. F.; 13 * Decl. and * H. F.
„ 24, 25, & 26	24, 25, 26	24, 25, 26	24 not dist.; 25 * ☽ Decl. and * ☽ H. F.; 26 * H. F.
„ 27 & 28	27, 28	27, 28	27 * Dec. and * H F.; 28 * H. F.
Oct. 8 & 9	9	8	8 and 9 not dist.
„ 24 & 25	24, 25	25	24 not dist.; 25 * ☽ Dec., and * H. F.
Nov. 6	6	None	6 * Decl., and * H. F.
„ 18 & 19	18	18, 19	18 not dist.; 19 * Dec.. and * H. F.
Dec. 3	None	3	3 * ☽ Decl. and * H. F.
„ 8	None	8	8 * Decl. and * H. F.
„ 14	14	None	14 * Decl. and * H. F.
„ 30	None	30	30 * Decl. and * ☽ H. F.

In the following table the day in each month is shown which is characterized by M. Kreil, in the manner already described, as the most disturbed day in the month at Prague. On a reference to the tables in pages x, xi, xii, xiii, the amount can be examined of the disturbance in Declination and Horizontal intensity on the same days at Toronto and Van Diemen Island: the most disturbed day in each month at those stations has been inserted in the present table with a view of showing how frequently the days are the same.

1841.	Prague.		Toronto.		Van Diemen Island.		Remarks.
	Decl.	Hor. Force.	Decl.	Hor. Force.	Decl.	Hor. Force.	
January .	31	13	25	27	19	6	Jan. 31 fell on Sunday at Toronto.
February .	9	26	9	26	9	22	
March . .	22	23	22	22	22	15	
April . .	No day of marked dist.	20	20	12	20	20	
May . .	10	10	10	10	10	10	
June . .	No day of marked dist.	25	23	25	18	28	
July . .	20	24	19	24	20	19	
August . .	No day of marked dist.	6	6	6	23	6	
September .	25	25	25	25	24	13	Sept. 25 fell on Sunday at Van Diemen Island.
October .	25	21	25	27	8	8	
November .	5	4	19	18	19	18	
December .	3	30	14	30	3	30	

We have thus three stations, one in the interior of Europe, one in the interior of America, and a third near the mid latitude in the southern hemisphere and in a meridian very distant from the other two. Of the twenty-nine principal disturbances recorded in the table,—some confined to a single day, others running through two or three successive days, and comprehending altogether forty-nine days,—by far the greater part are shown to have manifested themselves at the three stations, though variously modified in the intensity of the effect, in the particular time in which the action was greatest, and in the element most affected. Nor is it by any means to be understood that on the very few occasions when no extra observations were made at one of the two British stations, no disturbance existed there; the irregularity may not in all cases have been of sufficiently decided character to have appeared to require extra observations; or circumstances may not always have been suitable for the effort of supporting observations at short intervals with three instruments. The practice, however, which has been adopted in this volume, of giving the positions of the Magnets at the usual hours of observation at all the Observatories, on every day when extra observations have been made at any one of them, furnishes a ready means of examining, in the very few cases referred to, whether the disturbance be traceable, although no extra observations were made: in most of the instances it will be found to be distinctly traceable.

Of the twenty-nine periods of principal disturbance above noticed, fifteen were also marked by extra observations at St. Helena, showing a still more general extension. There is, however, a difference in the character of the phenomenon as it manifests itself at St. Helena (and possibly elsewhere in the low latitudes) from that which it bears in the higher latitudes, which renders it less fitted to arrest the attention of the observer at the moment, and may, therefore, in such localities, occasion a disturbance to pass more frequently without extra observation. In the higher latitudes great and rapid fluctuations

both in direction and force, which even a casual observer could scarcely overlook, appear the ordinary and leading characteristic; whilst at St. Helena this feature is far less obvious, and the more usual form of a disturbance is that of a sustained deviation, in one direction or the other, from the normal position at the same hours. In the Returns transmitted from Toronto and Van Diemen Island, the extra observations are generally introduced by a remark, "commenced in consequence of considerable or rapid changes occurring in the position of the Magnets." The corresponding notice at St. Helena is "commenced in consequence of the readings of the Declination or Horizontal Force Magnetometer being unusually high or low" as the case may be.*

It has been inferred by M. Kreil from the Prague observations (Mag. und Met. Beob. zu Prag Zwnt. Jahr, page 28) that the disturbances have little or no effect on the total magnetic intensity, and consequently that the variations which take place at such times in the horizontal force must be regarded as due to corresponding changes in the inclination. Dr. Lamont is also of opinion that "it is not improbable that the total force of terrestrial Magnetism remains unchanged, and that the variations perceived by us relate to direction only, so that the changes of inclination are given by changes of horizontal intensity," (Res. der. Mag. Beob. in München, 1840, 1841, 1842, page 678). The disturbances recorded in this volume by no means confirm the view, that the disturbing forces act at all times only in the direction in which they would produce no effect on the total intensity. On the contrary, many instances will be found on examination in which the total intensity was obviously and considerably influenced. A change in the total intensity shows itself by an alteration in the readings of the Horizontal and Vertical Force Magnetometers, the alteration being in both in the same sense, *i. e.*, either increased or decreased readings in both. A change of inclination on the other hand shows itself by the readings of the two force Magnetometers being simultaneously affected in opposite directions, *i. e.*, the reading of the one increasing when the other decreases. Instances of both kinds are frequent (as well as of the more complicated effect arising from both elements being affected). The very remarkable disturbance which took place about 16^h. on the 29th May, 1840, at Toronto, is a striking instance of change in the total intensity, both the force Magnetometers having been deflected beyond the scale at the same time in the same direction.†

For the purpose of exhibiting the proportionate amount of disturbance in the different

* In much the greater number of instances it is the low reading of the Horizontal Force Magnet, indicating a diminution of horizontal intensity, which occasioned the commencement of extra observations at St. Helena.

† The remarkable disturbance referred to, on the 29th of May, 1840, took place during the occurrence of an Aurora, and appears to have been connected with a peculiar phase of that meteor, as described by the Director of the Observatory in the note printed in page 3. Taking the positions of the Horizontal and Vertical Force Magnets when reported off the scale as if they had been at the zero of the scale, and regarding the mean positions in the month as normal positions, we have the disturbance of the Magnets at $16^h.\ 25^m.$ in scale divisions respectively as follows:—

months of the year, we may take the mean annual fluctuation in declination and horizontal intensity at Toronto and Van Diemen Island respectively as unity, and express the mean fluctuations of either element in each month in terms of its own mean annual fluctuation. Toronto and Van Diemen Island having opposite seasons, (*i. e.*, the winter of the one being the summer of the other, and *vice versâ*), any effect of season would

---

Declin., 129·4 westerly; Hor. Force, 145 decrease; Vert. Force, 61·7 decrease: equivalent to—

$$\delta\psi = 1^\circ\ 33'\cdot3$$
$$\frac{\delta X}{X} = -\cdot0304$$
$$\frac{\delta Z}{Z} = -\cdot0092$$

If we suppose these disturbances to be occasioned by a small force f in a direction of which the Declination is ψ' and the Dip θ' we have the equations—

$$f\cos\theta'\cos(\psi'-\psi) = \delta X \quad \text{- - - - - - - - - - - - (1)}$$
$$f\cos\theta'\sin(\psi'-\psi) = (X+\delta X)\tan\delta\psi \quad \text{- - - - - - - - (2)}$$
$$f\sin\theta' = \delta Z \quad \text{- - - - - - - - - - - - (3)}$$
$$\tan(\psi'-\psi) = \tan\delta\psi\cdot\frac{X+\delta X}{\delta X} \quad \text{- - - - - - - - - - - - (4)}$$
$$f\sin\theta' = \phi\sin\theta\frac{\delta Z}{Z} = A \quad \text{- - - - - - - - - - - - (5)}$$
$$f\cos\theta' = \phi\cos\theta\sec(\psi'-\psi)\frac{\delta X}{X} = B \quad \text{- - - - - - - - (6)}$$
$$f\cos\theta' = \phi\cos\theta\operatorname{cosec}(\psi'-\psi)\left(1+\frac{\delta X}{X}\right)\tan\delta\psi = B \quad \text{- - (7)}$$
$$\tan\theta' = \frac{A}{B}.$$
$$f = \frac{A}{\sin\theta'} = \frac{B}{\cos\theta'}$$

By means of these formulæ we obtain the direction and magnitude of the small disturbing force on May 29th, $16^h.\ 25^m.$, as follows:—

$$\psi'-\psi = 130^\circ\ 10'$$
$$\theta' = -40\ 50$$
$$f = \cdot0136\,\phi$$

October 24th, 1841, between $18^h.$ and $19^h.$, and November 18th, 1841, between $16^h.$ and $17^h.$, at Toronto, are other instances of remarkable disturbances apparently connected with peculiar phases of the Aurora. If we compute in a similar manner the direction and magnitude of the disturbing force at $18^h.\ 40^m.$ on the 24th October, and at $16^h.\ 25^m.$ on the 18th November, we obtain as follows:—

Oct. 24.	Nov. 18.
$\psi'-\psi = 135^\circ\ 0'$;	$\psi'-\psi = 139^\circ\ 08'$
$\theta' = -39\ 6$;	$\theta' = -31\ 15$
$f = \cdot0054\,\phi$;	$\therefore\ f = \cdot0093\,\phi$

It is deserving of notice that the directions should be so nearly the same in the three examples which have been cited.

tend to produce dissimilarity in the proportions, when the amount of disturbance in the same month at the two stations is compared; but as we have already seen the correspondence which exists in regard to the days of principal disturbance at both, it may be proper to examine in the first instance the degree in which an accordance may further be traced in the mean monthly fluctuations.

1841.	Toronto.		Van Diemen Island.	
	Declin.	Hor. Force.	Declin.	Hor. Force.
January	·77	·68	1·00	1·00
February	1·18	·75	1·33	1·12
March	·88	1·02	1·27	1·00
April	·75	·82	·75	·88
May	·94	·97	·99	1·00
June	·84	1·03	·66	·70
July	·91	·96	·86	·71
August	1·46	1·19	1·02	1·08
September . . .	1·30	1·55	·97	1·09
October	·87	·91	·92	1·09
November	·89	1·09	1·11	1·25
December. . . .	·93	·96	1·10	·92

The influence of the general disturbances which took place in more than ordinary measure in August, September, and February, is here visible; April, on the other hand, shows itself to have been a remarkably tranquil month at both stations.* We may still remark, however, even on general inspection, an indication of the apparent influence of season, which becomes more manifest when the months are arranged according to the respective seasons.

	Toronto.		Van Diemen Island.		Mean.
	Declin.	Hor. Force.	Declin.	Hor. Force.	
4 Summer Months	1·05	1·04	1·13	1·07	1·07
4 Winter Months	0·94	0·87	0·88	0·87	0·89
4 Months (2 Spring & 2 Autumn) .	0·94	1·07	0·98	1·01	1·00

The excess of the proportionate fluctuation in the summer over the winter months, in both elements, and at both stations, is too consistent and considerable to be altogether regarded as accidental, and is more deserving of attention when it is remembered that it must be viewed as a residual quantity after the counter-action of the causes, the syn-

* At Prague, in April, no day occurred in which the sum of the fluctuations of the Declination equalled twice the sum of the fluctuations of the mean monthly positions at the same hours; consequently, according to M. Kreil's mode of characterizing disturbed days, there was no day of disturbance of the Declination at Prague in the month of April.

chronous influence of which must now be regarded as an established fact. It must be admitted, however, that the evidence of a single year does not afford a sufficient basis on which to found the important deduction of an annual period in these hitherto apparently irregular phenomena; more especially as M. Kreil has drawn from the observations at Prague a contrary inference, namely, that the disturbances are more considerable in winter than in summer. (Mag. und Met. Beob. zu Prag Zwnt. Jahr, pages 14 and 18).

We may adopt a similar mode of examining the proportionate fluctuation, on the average of the whole year, at the different observation hours of the day and night. The mean fluctuation in the year of the Declination (for example) at 0 hour is

$$\overline{F(\psi_0)} = \frac{1}{n}\sqrt{\Sigma\,\overline{(F\,\psi_0)^2}};\ \text{at 2 hours}\ \overline{F(\psi_2)} = \frac{1}{n}\sqrt{\Sigma\,\overline{(F\,\psi_2)^2}};\ \&c., \&c.,$$

and $\frac{\overline{F(\psi_0)}}{\overline{F(\psi_{1841})}}$, $\frac{\overline{F(\psi_2)}}{\overline{F(\psi_{1841})}}$, &c., exhibit the proportionate amount of the mean fluctuation at the several hours of observation to the mean annual fluctuation regarded as unity.

* Mean fluctuation of the Declination at the several hours of observation in 1841.

Toronto.		Van Diemen Island.		Remarks.
h to h		h to h		
18 to 20	1·16	17 to 19	0·82	Mean of the hours of the day. Toronto, 0·82; V. D. Island, 0·78
20 „ 22	0·94	19 „ 21	0·84	
22 „ 0	0·74	21 „ 23	0·91	
0 „ 2	0·67	23 „ 1	0·70	
2 „ 4	0·55	1 „ 3	0·65	
4 „ 6	0·84	3 „ 5	0·77	
6 to 8	1·20	5 to 7	1·05	Mean of the hours of the night. Toronto, 1·13; V. D. Island, 1·18
8 „ 10	1·39	7 „ 9	1·12	
10 „ 12	1·12	9 „ 11	1·31	
12 „ 14	0·87	11 „ 13	1·36	
14 „ 16	1·10	13 „ 15	1·25	
16 „ 18	1·09	15 „ 17	1·02	

The fluctuation of the Declination appears from this table to be considerably greater during the hours of the night than in those of the day, both at Toronto and Van Diemen Island.

In regard to the horizontal force we can obtain no satisfactory deduction from the Observations at Van Diemen Island, until we are enabled to correct the results for the influence of variations of temperature on the magnetism of the bar.

The following are the mean fluctuations of the Horizontal Force at Toronto at the several hours of observation in 1841, from which no very obvious inference appears to be deducible :—

Day.	h 18 to h 20	1·00	Mean, 1·02	Night.	6 to 8	1·20	Mean, 1·00
	20 „ 22	1·02			8 „ 10	0·94	
	22 „ 0	1·17			10 „ 12	0·87	
	0 „ 2	0·91			12 „ 14	0·89	
	2 „ 4	0·98			14 „ 16	0·89	
	4 „ 6	1·02			16 „ 18	1·20	

On examining the meteorological registers at the Toronto Observatory, with reference to the appearance of Aurora, on the twenty-four days of principal magnetic disturbance at that station, it appears that on thirteen days of the twenty-four the Aurora was visible, and that on the remaining eleven days the sky was either densely overcast or heavily clouded, so that the Aurora, though it might exist, could not be seen.

January 18 Faint Auroral light.
„ 27 Auroral light in North.
February 9 Densely overcast.
„ 23 Faint Auroral light.
March 15 Bright Aurora.
„ 22 Generally overcast.
May 10 Densely clouded with rain.
July 19 Bright Aurora.
„ 24 Heavily overcast, with thunder.
August 6 Brilliant Aurora.
„ 23 Faint Aurora.
„ 26 Overcast with haze.
September 13 Aurora, with streamers and pulsations.
„ 24 Heavily clouded with rain.
„ 25 Bright Aurora.
October 9 Brilliant Aurora.
„ 25 Bright Aurora.
November 5 Faint Auroral light.
„ 6 Densely clouded.
„ 11 Densely clouded, with rain.
„ 18 Brilliant Aurora.
December 3 Densely clouded, with rain.
„ 14 Densely clouded.
„ 30 Overcast with dense haze.

The connexion between Aurora and magnetic disturbance, each viewed as a local phenomenon, has often been remarked: the days in the above list on which both occurred together were however days of disturbance at Prague and Van Diemen Island, as well as at Toronto; it would seem therefore that we may view the occurrence of Aurora at Toronto on those occasions as a local manifestation connected with magnetic effects, which, whatever may have been their origin, probably prevailed on the same day over the whole surface of the globe.

The observations with the Vertical Force Magnetometer at St. Helena prior to July 1841, have been omitted. The magnet, which had been much rusted on the passage out, was replaced in October, 1841, by one of improved construction, and in the observations made subsequently the connexion appears to have been generally preserved for short intervals.

The scale coefficients (k) of the Horizontal and Vertical Force Magnetometers, being the values respectively of one division of the scale in parts of the force at the station, are given in the heading of each day at each of the Observatories; except for the Vertical

Force Magnetometers of the Antarctic Expedition and of the Van Diemen Island Observatory, from which the data for computing the coefficients have not yet been received.

The temperature coefficients (q) of the Horizontal and Vertical Force Magnets, or the changes of the magnetic moment of the several bars, produced by one degree of Fahrenheit, are also given in the several headings, as far as they are yet known.

EDWARD SABINE.

Woolwich, August 1, 1843.

PREFACE.

THE First Part of the Volume, of which this is the Second Part and completion, was published in 1843. The First Part contained the "Disturbance" Observations in 1840, 1841, at the Colonial Observatories established by the British Government; the Second Part contains the continuation of the same to the end of 1844. The two Parts together form the First Volume of the Observations on Days of Unusual Magnetic Disturbance at the British Colonial Magnetic Observatories, under the Departments of the Ordnance and the Admiralty.

As the form in which the Observations are printed in the Second Part of this Volume differs from that adopted in the First Part, it is necessary to say a few words in explanation of the difference.

In the original Instructions published by the Royal Society for the guidance of the Magnetic Observatories, it is stated that, for the purpose of pursuing in a more complete and satisfactory manner than had been previously possible investigations into the Magnetic Disturbances, the data especially required were, the synchronous variations of the three magnetic elements, *viz.*, the Declination, the Inclination, and the Total Magnetic Force, during periods of unusual disturbance. The words of the Instructions are clear in this respect:—"Until lately the movements observed have been only those of the magnetic *Declination,** although there can be no doubt that the *Inclination* and the *Intensity* (of the Force) are subject to similar perturbations. Recently, at many of the German stations, the *horizontal component* of the intensity has been observed as well as the Declination; but the determination of another

* The *Italics* in this extract are those of the Instructions themselves.

element is yet required, before we are possessed of all the data necessary in this most interesting research. . . ... At each Observatory the changes of the *vertical component* of the magnetic force will be observed, as well as those of the *horizontal component* and *Declination;* and the variations of the two components of the force being known, those of the *Inclination* and of the *Force* itself, are readily deduced. The simultaneous observations of these three elements will be made at numerous and stated periods, and there is every reason to hope that the Directors of many of the European Observatories will take part in the combined system."

It has been the desire of the Directors of the British Colonial Observatories to carry out this, as well as every other part of the Royal Society's Instructions, to the fullest practicable extent. Accordingly it has always been kept in view that the observed variations of the horizontal and vertical components of the force would have to be combined, in order to furnish their theoretical equivalents, *viz.*, the variations of the Inclination and of the Total Force. And, as the deduction of the Inclination and of the Total Force, from the observed variations of the two components of the Force, can be made with far greater convenience and advantage by those who are officially engaged in making the observations, or in reducing them and preparing them for publication, than by others (so much so that, practically, if not made by them, the deduction would probably never be made at all), the interests of science, as well as the fulfilment of the Instructions appeared to require, that the record of the disturbances should contain not only the variations of the observed elements, but also the variations of what, in the words of the Instructions, are stated to be "the Elements on which the determination of the Earth's Magnetic Force is usually based." The publication of the variations of the *deduced* as well as of the *observed* elements during Disturbances, was consequently a part of the earliest conception of the contents of these volumes.

The interest which was so generally excited by the occurrence of the great Disturbance of the 25th of September, 1841, caused however, a pressing demand to be made at that period for the immediate publication of the observations which had been made on that occasion, as well as on the days of unusual, though of less, Disturbance which had occurred previously. The demand was too pressing not to be complied with; although at that early period it was possible only in a few cases, and even in those only approximately, to give more than the variations of the scale readings of the

magnetometers; as the coefficients, particularly those for the reduction to a common temperature, had not at that time been satisfactorily determined. The First Part of this volume was published to meet the demand referred to.

The more enlarged form in which the Disturbances appear in the Part now published will, it is hoped, meet the requirements of those who desire to employ them in theoretical investigations. The variations of the Declination, the Horizontal Force, the Vertical Force, the Inclination, and the Total Force, at each instant of observation, from the normal values of these elements in the month in which the Disturbance occurs, are given, as well as the fluctuations of the several elements in successive observations. The mean monthly readings of the three magnetometers, derived from the regular series of hourly observations, are in all cases prefixed to the record of the Disturbance observations duringthe same month; and in the same horizontal line with the disturbed readings of the magnetometers, are the corresponding values of the Declination, the Horizontal and Vertical components of the Force, the Inclination, and the Total Force. The correctness of the deductions can be in all cases verified by the data which are given in accompaniment with them.

The reduction and publication of this part of the volume have been conducted entirely under the superintendence of my Assistant, Captain Charles Younghusband, of the Royal Artillery, whose further explanatory remarks are subjoined.

In Part I. the descriptions of Auroras visible during periods of magnetic disturbance were appended as foot notes to the record of the Magnetometric Observations It has been deemed a preferable arrangement that such descriptions should not be separated from the general record of meteorological phenomena. The description of the Auroras observed in the years 1843, 1844, and 1845, transmitted from Toronto and Hobarton, will consequently be found in the volumes appropriated to the Meteorological record.

EDWARD SABINE.

Woolwich, December, 1850.

INTRODUCTION.

THE Observations contained in the Second Part of this volume are composed essentially of observations made at short intervals with the Magnetometers, at the Colonial Magnetic Observatories, whenever it was perceived that the readings differed, by any remarkable amount, from the ordinary position at the same hour. They extend from January 1842 to December 1844, and complete the first volume of Disturbance Observations, of which Part I. was published in 1843; these observations, as stated in the preface to that publication, having being separated from the observations made daily at stated periods, "in order to furnish the opportunity of more readily comparing them together, and with contemporaneous observations published elsewhere."

In addition to the observations at unusual periods, this volume also contains the observations on such of the pre-arranged term days as showed more than ordinary magnetic changes.

The mode of reduction has been as follows:—The mean monthly position of the Declination, Horizontal Force, and Vertical Force Magnets, at each hour of the day, having been extracted from the register, the Bifilar and Vertical Force observations are reduced to the mean monthly temperature of each of those magnets at the corresponding hours, and the values thus corrected are inserted as a commencement to each month's disturbance observations, forming normal values, from which the differences of the observed readings, during the disturbances, are the changes due to the disturbing forces.

As it is necessary, in practice, to employ normal values at several intermediate instants of observations, occurring between the regular observations at each hour of Göttingen mean time, and depending upon the corresponding time at which the irregular observation was made, in the absence of data upon which to found a more certain inference, the change from hour to hour has been taken as direct and uniform; the normal values have therefore been obtained by simple interpolation.

Following the monthly mean positions, or normal values, are the scale and temperature coefficients, and approximate absolute values of each element. The disturbance observations then follow; the page being divided vertically into two portions, on one half appear the readings of the magnetometers, and of the thermometers attached to

the force instruments as observed; and on the other half the differences from the normal values in absolute amount, expressed by $\frac{\Delta X}{X}$, $\frac{\Delta Y}{Y}$, and $\Delta \psi$, or of Horizontal Force, Vertical Force, and Declination respectively; from the two first are also deduced the changes of Inclination and Total force expressed by $\Delta \theta$ and $\frac{\Delta \phi}{\phi}$. In accordance with usual custom, negative (−) signs have been, throughout this volume, prefixed to the absolute values of East Declination and South Inclination; where the Declination is West, or where the north end of the needle has North Inclination, no sign is employed; this would probably have been understood, but the application of signs in other portions of the calculation renders further explanation necessary.

Increasing scale readings denote a movement of the north end of the Declination Magnet towards the east, and an increase of Horizontal or Vertical Force. Positive (+) signs denote an increase of scale readings, and negative (−) signs a decrease of scale readings. Therefore positive signs prefixed to the changes of Declination indicate more easterly positions of the north end of the magnet, and negative signs more westerly positions of the north end of the magnet, than the normal; also positive signs indicate a greater, and negative signs a less, Horizontal, Vertical, or Total Intensity, and greater or less Inclination, whether the north end be above or below the horizontal plane.

It may here be remarked that, as the Horizontal and Vertical Force magnetometers are not read strictly simultaneously, the changes of Inclination and Total Force are subject to a slight error on this account, yet, as the interval between the readings of the two instruments did not at any time exceed from one to two minutes, the error induced would not be perceptible, except on the occurrence of large and rapid movements.

As the instruments employed in observing the disturbances were the same as those employed in making the hourly series, the coefficients, with which the observations are reduced, are consequently the same in both, and the details of the adjustments from which they were calculated, finding their place in the volumes devoted to the regular series, it is unnecessary here to repeat them.

It is proper, however, to notice the temporary instrumental irregularities which have sometimes occurred, whereby the scale coefficients, deduced in the usual manner, are, from some cause, evidently incorrect, and therefore the changes in absolute amount erroneous. The coefficient of the Declination magnetometer is so simply and directly obtained, that no doubt can exist of its true value having been everywhere correctly ascertained; that of the Bifilar magnetometer depending likewise on principles well understood, the values given in this volume may be depended upon, at all events, within the limit of accuracy with which Disturbance Observations can generally be registered. The construction of the Vertical Force magnetometer has not, in some instances, permitted that element to be as correctly observed as the other two, and it

is these instances we desire to notice; though remarkable only in the St. Helena Force changes, where the Vertical component of the whole force is extremely small, and the difficulty of adjusting the instrument proportionably great; in addition to which it seems likely that the mechanical construction of the needles at St. Helena did not obtain that degree of delicacy which the needles at the other Observatories were fortunately found to possess.

During January, February, and March, 1843, at St. Helena, it appears that the Vertical Force needle was not adjusted so as to possess sufficient sensibility, so that the scale coefficient, calculated from the time of vibration, being extremely large, the very smallest movement of the magnet indicated by the reading expressed a considerable amount of change of Vertical Force. The readings appear to have decreased from day to day during those months, and show a much greater increase of dip than we know can have occurred; when we therefore proceed to take the differences of actual readings observed, from the mean of the observations during the month corresponding to about the 15th day or middle of the month, there is every reason to believe that the result, expressing sometimes considerable change of force, is not the true difference from the normal. It is, however, to be remarked, that the gradual change of readings, from day to day, did not sensibly affect the magnetometer reading between successive observations, so that the curve of the disturbance is essentially correct, although, as above explained, the total difference from the normal may be subject to errors.

The routine followed in making the observations during the disturbances was, to observe the Declination, Horizontal Force, and Vertical Force magnetometers in succession, allowing two minutes each for the Declination and Horizontal Force observations, and one minute for the Vertical Force, so that each instrument was observed after an interval of five minutes. This plan was adopted latterly, when it was found that two minutes, formerly given to the Vertical Force, was more than sufficient. It is evident that the time of one observer was fully occupied by this routine; and as during disturbances, the magnets generally vibrated in an unusual degree, and occasionally in considerable arcs, as well as frequently in a jerking, irregular manner, two minutes were the shortest time in which it was possible to determine the mean position of the magnet at the specified instants of observation, including the time occupied by the observer in changing his position from the telescope of one instrument to that of another.

There is no doubt, however, that a great part of the disturbance was occasionally lost from observations being intermitted even for the short space of five minutes, and that the application of self-registering apparatus to magnetical instruments will be of infinite value for this purpose alone. As an instance of the occasional irregular movements of the magnets, I subjoin extracts from the original register of the actual readings taken during several disturbances at Toronto, showing that an abstract of

the mean position at intervals of five minutes fails in many cases to convey an accurate conception of the real movements of the magnet, the regularities that occur at very short intervals being completely masked, by the necessity of drawing a straight line from one five-minutely observation to another in laying down the disturbance curve, expressing, which is the only assumption that can be made, that the movement during the time was direct, uniform, and regular.

EXAMPLES:

March 30, 1844.—The three readings of the Bifilar Magnetometer, at intervals of one vibration (17 seconds), 45·0, 45·5, 55·0, are entered under the general Mean, 48·5.

April 16.—The three readings 109·0, 104·0, 86·0, under the general Mean, 99·7.

On other occasions the magnet, instead of vibrating backwards and forwards about a mean position, was observed to make a continuous movement in the same direction for some time, as in the following instances. The readings were, as before, observed at intervals of 17 seconds, being the time of one vibration of the magnet:—

April 16, 1844.	71·0	73·0	77·0
Again	70·0	75·0	80·0
Again	117·5	111·0	106·0

During some very large disturbances at Toronto, in 1847, the irregularity of the movement was occasionally very great. The following are instances of consecutive readings, at intervals of one vibration:—

1.	20·0	70·0	70·0
2.	40·0	90·0	90·0
3.	80·0	70·0	50·0
4.	108·0	143·0	175·2
5.	68·0	97·0	105·6

Now the only practicable method of obtaining an abstract of the observations for the purpose of deducing changes of Dip and Total Force is to take a mean of several readings of the magnets, which in those cases can but very imperfectly represent the true movements of the needles.

The changes of Dip and Total Force have been deduced from the observed changes of Horizontal and Vertical Force, by the formulæ,

$$\Delta\,\theta = \tfrac{1}{2}\sin^2\theta\left(\frac{\Delta\,Y}{Y} - \frac{\Delta\,X}{X}\right)$$

$$\frac{\Delta\,\phi}{\phi} = \cos^2\theta\frac{\Delta\,X}{X} + \sin^2\theta\frac{\Delta\,Y}{Y} = \frac{\Delta\,X}{X} + \sin^2\theta\left(\frac{\Delta\,Y}{Y} - \frac{\Delta\,X}{X}\right)$$

CHARLES W. YOUNGHUSBAND.

Woolwich, December, 1850.

EXPLANATION OF THE SYMBOLS EMPLOYED IN THIS VOLUME.

a = Arc Value of one Division of the Declinometer Scale.

k = Scale Coefficient of the Horizontal or Vertical Force Magnetometer, or the proportionate part of the Force corresponding to one Scale Division of the Instrument.

q = Temperature Coefficient of the Horizontal or Vertical Force Magnet, or the proportionate part of the magnetic Moment of the Bar, corresponding to a change of one degree of Fahrenheit's Thermometer.

ψ = Absolute Value of the Declination.

$\left.\begin{matrix} X = \\ Y = \\ \phi = \end{matrix}\right\}$ Absolute Value of the Horizontal Force, Vertical Force, and Total Force, respectively, in British units.

θ = Absolute Value of the Inclination.

ERRATA IN PART II. OF THIS VOLUME.

	h.	m.						
Page 30	8	38	last	col.	*for*	·0000	*read*	+·0010.
— 73	18	44	last	col.	,,	−·0123	,,	−·0023.
— 103	18	18	last	col.	,,	−·0003	,,	−·0009.
— 103	21	56	9th	col.	,,	+ 1·2	,,	− 0·5.
— 103	21	56	last	col.	,,	−·0007	,,	−·0014.
— 246	00	57	10th	col.	,,	44·4	,,	14·4.
— 296	18	17	first	col.	,,	130·0	,,	140·0.

OBSERVATIONS WITH THE MAGNETOMETERS

ON DAYS OF

UNUSUAL MAGNETIC DISTURBANCE,

1840-1841.

March 21, 1840.

Toronto { Decl. 1 Scale Division = 0′·72
H. F. k = ·00017; q = ·00034 [a]
V. F. [b]

Extra observations.

The H. F. was observed at 1m. 40s. before the times specified.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Divns.	Sc.-Divns.	Ther. °	Sc.-Divns.	Ther. °
21	3	45	0	63·4	37·6	46		
		47	30	57·8				
		50	0	58·6	38·2			
		52	30	56·9				
		55	0	55·1	39·9			
		57	30	54·3				
	4	0	0	54·3	40·4	47		
		5	0	47·8	39·7			
		10	0	46·1	39·9			
		15	0	46·1	40·9			
		20	0	46·8	41·0			
		25	0	48·1	42·2			
		30	0	48·9	43·0			
		35	0	51·7	44·5			
		40	0	54·3	44·8			
		45	0	56·3	43·9			
		50	0	55·7	43·1			
		55	0	54·2	41·6			
	5	0	0	53·6	40·7			
		5	0	53·1	40·0			
		10	0	51·6	38·8			
		15	0	51·6	37·5			
		20	0	49·1	37·2			
		25	0	47·0	37·2			
		30	0	47·4	37·2			
		35	0	46·7	36·6			
		40	0		37·3	50		
	15	55	0	60·9	54·8			
	16	0	0	60·9	55·2	48		
		5	0		54·0			
		15	0	61·6	54·2			
		20	0	63·2				
		25	0	61·0	53·7			

Positions at the usual hours of observation, March 21st.

21	0	0	0	63·8	61·7	44		
	2	0	0	61·8	47·3	46		
	4	0	0	54·3	39·7	47		
	6	0	0	49·6	38·8	50		
	8	0	0	44·6	48·6	49		

March 21, 1840.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Divns.	Sc.-Divns.	Ther. °	Sc.-Divns.	Ther. °
21	10	0	0	51·7	54·9	49		
	12	0	0	58·8	56·4	50		
	14	0	0	59·8	55·2	49		
	16	0	0 [c]	60·8	54·0	48		

Mean Positions at the same hours during the Month. [d]

	0	0	0	63·4	59·9	45		
	2	0	0	67·2	58·2	46		
	4	0	0	63·4	48·9	47		
	6	0	0	53·3	47·3	49		
	8	0	0	48·9	53·7	50		
	10	0	0	52·4	66·9	51		
	12	0	0	56·7	56·2	52		
	14	0	0	59·3	56·4	51		
	16	0	0	60·1	57·0	49		

April 25, 1840.

Toronto { Decl. 1 Scale Division = 0′·72
H. F. k = ·0002; q = ·00034
V. F. [e]

Extra observations made during a violent hail-storm, occurring at the close of a light thunder-storm. [f]

25	9	50	0	48·0		59		
		55	0	52·2				
		56	0	52·5				
		57	25		46·7			
		58	40		46·8			
		59	0	52·4				
		59	55		47·6			
	10	0	0	51·9	47·9	59		
		1	0	52·1				
		1	10		47·9			
		2	0	52·2				
		2	25		47·7			
		3	0	53·0				
		3	40		47·5			
		4	55		48·1			
		6	10		48·6			
		7	25		48·3			
		8	0	53·3				
		9	0	53·5				
		10	0	53·3				
		19	0	54·0				

April 25, 1840.

Positions at the usual hours of observation, April 25th.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Divns.	Sc.-Divns.	Ther. °	Sc.-Divns.	Ther. °
25	0	0	0	67·1	55·0	54		
	2	0	0	64·7	52·0	55		
	4	0	0	55·0	36·5	56		
	6	0	0	53·0	42·1	57		
	8	0	0	48·8	46·1	59		
	10	0	0	51·9	47·9	59		
	12	0	0	57·5	49·2	62		
	14	0	0	59·7	43·5	63		
	16	0	0 [g]	58·8	44·6	62		

Mean Positions at the usual hours of observation, April 18th to April 30th.

	0	0	0	66·8	58·0	52		
	2	0	0	68·5	55·9	52		
	4	0	0	61·2	49·0	53		
	6	0	0	51·8	49·0	54		
	8	0	0	46·9	55·0	55		
	10	0	0	51·2	57·5	56		
	12	0	0	56·7	56·0	57		
	14	0	0	57·5	52·8	56		
	16	0	0	61·0	52·0	56		
	18	0	0	61·2	54·6	53		
	20	0	0	62·2	56·8	53		
	22	0	0	62·8	58·5	52		

May 29 and 30, 1840.

Toronto { Decl. 1 Scale Division = 0′·72
H. F. k = ·00021; q = ·00034
V. F. k = ·00015; q = ·0002 [h]

Regular, extra, and term observations, May 28th, 18h., to May 30th, 16h.

The V. F. was observed at 2m. 30s. before, and the H. F. at 2m. 30s. after the times specified. [i]

28	18	0	0	158·9	142·7	71	55·2	70
	20	0	0	161·8	140·5	71	53·1	71
	22	0	0	169·4	142·7	70	59·1	69
29	0	0	0	191·2	162·7	69	58·7	69
		25	0	170·1	152·8		57·5	
		30	0	169·3				
		35	0	177·5	154·7			
		40	0	179·4				

[a] The value of q for this bar, which was used from March to August, is approximate.
[b] The V. F. magnet was not in adjustment. [c] Saturday midnight at Toronto.
[d] The mean positions of the H. F. magnet are from March 19th to March 31st inclusive; they cannot be considered as strictly comparable with the daily positions on the 21st, in consequence of the possible stretching of the suspension wires for some weeks after the first adjustment.
[e] The V. F. magnet was observed, but the readings were not as yet to be relied on.

[f] At d. 25 h. 9 m. 40 a dense mass of black clouds, covering five-eighths of the sky in N. and W.; frequent peals of distant thunder commenced at about 9h.
55 Clouds spreading upwards from the West, covering nearly all the sky; loud thunder, and vivid flashes of forked lightning. Lightning proceeding from W.N.W., where the sky was broken into bright masses of clouds, with rounded and well-defined upper edges; sky clear to the Southward.
58 A tremendous shower of hail fell very suddenly; and about five minutes after, a heavy peal of thunder, accompanied with rain, and a heavy squall from the Westward; some of the hailstones were fully *one inch in diameter;* the whole of them were very large. The fall lasted about ten minutes, when the clouds broke to the Northward and Westward, and the whole sky became covered with masses of cumuli passing over from the West. The wind drew again to the East.

d. 25 h. 10 m. 45 Sky clear to the W. of North; storm passing over to the East; heavy and lowering in the North-east; wind drawing back to the West; clouds passing from the West. The hail-storm appears to have extended in a westerly direction, the breadth within which hail fell being about four or five miles; the weight of the squall was not more than a mile and a half, or two miles in width.

[g] Saturday midnight at Toronto. [h] This value is approximate.

[i] *Description of an Aurora observed on the night of the 29th and 30th May 1840, and of its effect on the Magnets in the Observatory at Toronto.*

The disturbance of the magnets commenced between 28d. 22h. and 29d. 0h. 0m.; the magnetometer readings at those hours showing a decrease in the declination, amounting to 15′·1, and an increase in the H. F. equal to 0·004 of the whole force. The V. F. had scarcely changed.

At 29d. 0h. 25m., the disturbance of the declination was so great *that in one minute* only, the change of angle amounted to about 10′; the disturbance subsided rapidly, and little more than the usual changes took place until 29d. 4h., at which time the observations at short intervals were discontinued.

May 29 and 30, 1840.								May 29 and 30, 1840.								May 29 and 30, 1840.							
M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °	d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °	d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
29	0	45	0	175·7	153·1		57·9		29	1	50	0	175·7					29	3	30	0	164·9				
		50	0	174·2						2	0	0	170·9	144·1	69	56·5	68			35	0	162·3	149·4		55·3	
		55	0	174·9	152·3		57·5				35	0	169·6	144·8						40	0	160·0				
	1	0	0	173·0			59·4	69			50	0	167·2							45	0	160·3	148·8		54·7	
		10	0	172·8	148·6						55	0	163·2	148·4		55·2				50	0	161·0				
		15	0	170·4	145·7					3	0	0	165·5		69					55	0	157·9	147·[illegible]		54·2	
		20	0	168·2							5	0	163·3	145·9		53·3			4	0	0	157·3		68		68
		26	0	156·8	137·5						10	0	164·6							5	0	158·0	159·2		54·5	
		31	0	167·2							15	0	166·3	144·5		54·4				10	0	155·8				
		34	0	172·2	138·5						20	0	163·9							15	0	155·5	147·7		54·8	
		45	0	176·9	142·3						25	0	167·2	147·5		54·5				20	0	156·6				

The term day observations commenced at 29^{d}. 10^{h}. The weather continued fair and calm, and the sky perfectly clear, except a light haze round the horizon, until 29^{d}. 13^{h}., when a few cirro-strati appeared in the North and West horizons. The sun set with a glow which extended to the N.E.

A faint light appeared in the North about 9 o'clock, followed soon after by faint streamers to the East of North; at 9^{h}. 22^{m}. the sky to the North had become one bright sheet of light; at 9^{h}. 30^{m}. a dark cloud lay along the horizon, arching upwards; brilliant streamers shot up along its extent from N.W. to N.E., reaching nearly to the zenith and occasionally sending out flashes like a gleam of lightning, having a most beautiful effect.

The remarkable feature of this Aurora consisted in a continued succession of most brilliant flashes or pulsations, at times covering the whole upper portion of the sky from W.N.W. to E.N.E., but never lower than an altitude of 15° or 20°; the streamers were faint at their first appearance, but soon brightened up, and would occasionally shoot upwards, darting across the flashes; the latter resembled large waves of light thrown upwards in successive layers, appearing usually at different points in detached masses, but occasionally each layer or wave extending round the whole Northern semi-circle and being thrown upwards with a regular although incessant motion. They were only once observed to flash across the zenith, but frequently round it.

The greatest disturbance of the declination magnetometer commenced about 15^{h}. 35^{m}., at which time or a few minutes later, two remarkably brilliant streamers, shaded off with lesser ones, were seen to rise from a patch of light in N.W. at an alt. of about 15°, converging, as appeared to be the case with all the others, to a point about 5° West of the zenith, and, for a few seconds, forming a very distinct corona about 10° from the point of convergence; the sky within the circle or corona being perfectly clear.

The most beautiful and remarkable appearance during the night occurred a few minutes after 16^{h}.; a perfect arch extended from N.W. to N.E., splendid streamers shot up from it to the point of convergence already mentioned, and most brilliant and incessant flashes were thrown upwards to the South of the zenith in a series of concentric rings, the centre of rings and arch being about 10° East of North. The flashes extended only within about 15° or 20° to the North of the zenith, but closed nearer to the South, and formed for a few seconds almost a perfect ring of light; the Northern part of the circle remained clear for some time, the dimensions and other particulars were unfortunately not noted at the moment.

It was while this appearance lasted that the H. F. and V. F. magnets were drawn out of the range of their scales. The pulsations and streamers became fainter, and the extreme disturbance of the magnets ceased after 16^{h}. 30^{m}. A faint light and streamers were visible at intervals until 29^{d}. 8^{h}.; towards 19^{h}. the flashes and streamers again appeared with nearly their former brilliancy; a very light air had sprung up from the North, and in lieu of their former uniform pulsations the flashes appeared to have an incessant dancing motion, downwards as well as sideways. On its again becoming calm the motion ceased.

All traces of the Aurora vanished between 20^{h}. and 21^{h}., the magnets became comparatively steady, and continued without disturbance until 30^{d}. 10^{h}., when very sudden changes took place for a short time.

Flashes of such magnitude and brilliancy do not appear to have been commonly seen in this part of the country.

The disturbance of the magnets, more particularly those of the H. F. and V. F., was far greater than could have been anticipated from the observations of the preceding months. The greatest changes that had been observed between any succeeding pair of two hourly observations between the 15th February and 29th May were of the declination about 16′·5; of the H. F., 0·0044; and of the V. F. from 20th April to 29th May, 0·00088 of the whole; while the entire range of the declination during the preceding months amounted only to an angle of 28′·0, and the maximum monthly changes of the H. F. and V. F. to ·0163 and ·0024 of the respective forces.

The extreme change of declination during this disturbance amounted to 1° 59′, the readings of the scale varying from 25·4 to 190·1, the mean reading being about 160·0; the Aurora caused an increase to the mean Westerly declination of about 1° 37′.

The highest reading of the H. F. magnetometer was 214·0, the change to 0 of the scale corresponds to a decrease of 0·044, or about 1-23rd of the whole force. The extreme disturbance must have exceeded this very considerably.

No colour could be distinguished in the Aurora except the usual pale yellowish tinge.

Corporal Johnston, one of the assistants at the Observatory, heard a distinct hissing noise like the escape of steam at about 29^{d}. 16^{h}., when the flashes were most brilliant and the force magnets were beyond the range of the scales; particular attention was paid throughout the night, but there were few intervals before midnight when the neighbourhood was sufficiently quiet to allow of a slight sound being heard.

Detailed account of the Aurora.

d.	h.	m.	
29	14	0	Haze round horizon, remainder clear.
	15	0	Haze round horizon; faint light on either side of North to an altitude of about 5°.
		15	A very faint streamer shot up in N. by E. to an alt. of about 60°.
		19	Sky to North a bright sheet of light.
		24	Bright arch of light from N.N.W. to N.N.E., alt. in North about 15°; faint streamers shooting up in North by East to an alt. of 45°.
		27	Brilliant streamers in close arrangement shooting up from extreme end of arch at N.W.
		27	Streamers rising from N.W. to N.E. very bright at intervals, and occasionally appearing to flash like a gleam of lightning; height nearly to zenith; dark clouds along the horizon, arching upwards in North; greatest alt. 15°.
		37	Streamers fainter in the N.E. drawing more to the Westward, converging to a point about 5° West of zenith.
		42	Two brilliant streamers shaded off with lesser ones darting up from a patch of light in N.W. Streamers at intervals from N.W. to N. converging to the point above named; for a few seconds a distinct corona within 10° of point of convergence.
		45	Streamers fainter; incessant pulsations like faint flashes of lightning through the whole sky to the Northward; dark in the North except when lighted up by the pulsations increased in brilliancy; stars visible through them; incessant flashes appearing to circle round the zenith to Westward.
		52	Patches of light at different alts from W.N.W. to S.E.; no streamers. Flashes from the whole semi-circle across and round zenith, appearing bent in their course upwards.
	16	0	Brilliant streamers and pulsations
		2	Perfect arch from N.W. to N.E., splendid streamers from it and most beautiful and incessant flashes—almost one continued stream of light.
		7	Same continuing, streamers converging as before, pulsations thrown upwards in a series of concentric rings to the South of zenith, round point of convergence, centre of arch and rings about 10° East of North.
		9	A bright and broad streamer rising in magnetic North and extending nearly to zenith; pulsations fainter and less frequent; streamers ascending in the West from a patch of light, circling outwards, and returning towards the point of convergence. Scale of H. F. magnet re-appearing for a few seconds.
		12	Flashes brighter—rapid as could be conceived; two small but very brilliant streamers in North, one very bright shot up in North and disappeared instantly. Patches of light and faint streamers from N.W. to E.
		17	Bright streamers from W. to S.E. converging to Westward of zenith and forming a corona.
		20	North clear except occasional bright flashes and streamers.
		27	Faint streamers; pulsations most brilliant from N.W. to E.
		28	Aurora much fainter; streamers scarcely visible, faint pulsations at intervals.
		32	Most brilliant streamers in N.N.W., and flashes converging, &c., as before.
		42	Faint streamers and flashes from N. by W. to N.E.; none to Westward.
		52	Streamers disappeared; faint light above horizon, stratus clouds visible in it; flashes continuing near West and East.
	17	7	No streamers or flashes; faint patches of light remaining in N.N.W.
		13	Faint light in N.N.W. brightening to Eastward of North.
		27	Streamers shooting up from a bright patch extending from N.E. to N.W.; flashes following each other in quick succession.
		37	Light fainter; a few streamers and flashes at intervals; several bright patches above bank of light from N.E. to N.W.
		42	Light increasing; bright flashes extending to zenith.
		47	Light very faint; brightest in the Eastward.

OBSERVATIONS WITH THE MAGNETOMETERS ON DAYS OF UNUSUAL MAGNETIC DISTURBANCE, 1840–1841.

May 29 and 30, 1840.

M. Gott. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
29	4	25	0	156·7	146·8		54·6	
		30	0	161·0				
		35	0	155·9	151·0		54·6	
		40	0	156·9				
		45	0	159·7	152·8		53·6	
		50	0	162·1				
		55	0	158 3	150·1		53·9	
	5	0	0	158·8		68		68
		5	0	154·4	147·6		53·4	
		10	0	154·3				
		15	0	156·1	145·6		54·2	
		20	0	158·0				
		25	0	158·9	147 9		54·7	
		30	0	157·9				
		35	0	157·7	145·8		55·3	
		40	0	156·8				
		45	0	155·7	150·1		55·1	
		50	0	153·5				
		55	0	151·0	151·4		55·1	
	6	0	0	150·1		68		
		5	0	150·5	148·2		55·0	67
		10	0	153·1				
		15	0	152·6	147·5		54·9	
		20	0	153·3				
		25	0	149 8	155 4		56·5	
		30	0	146·9				
		35	0	147·8	151·1		56·5	
		40	0	150·4				
		45	0	151·4	151·2		56·4	
		50	0	151·6				
		55	0	159·8	151·9		56·9	
	7	0	0	154·9				
	8	0	0	151·2	155·6	68	56·9	68
	10	0	0	153·8	160·3	69	70·8	68
		5	0	154·8				
		10	0	152·5	158·5		70·8	
		15	0	150·8				
		20	0	154·2	160·1		71·3	
		25	0	156·1				
		30	0	156·2	165·1			
		35	0	153·6				
		40	0	147·6	159·0		75·2	
		45	0	150·3				
		50	0	154·9	156·7		79·0	
		55	0	163·8				
	11	0	0	161·6	184·8	69	80·4	69
		5	0	155·0				
		10	0	152·6	185·0		84·2	
		15	0	166·9				
		20	0	159·4	214·0		91·6	
		25	0	150·8				
		30	0	164·4	203·3		101·2	
		35	0	175·9				

May 29 and 30, 1840.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
29	11	40	0	141·6	207·7		89·5	
		45	0	145·1				
		50	0	159·5	198·8		93·3	
		55	0	138·4				
	12	0	0	123·3	214·8	69	87·3	69
		5	0	161·1				
		10	0	151·3	160·9		87·5	
		15	0	164·8				
		20	0	160·0	152·9		78·5	
		25	0	148·7				
		30	0	143·5	143·2		75·2	
		35	0	142·1				
		40	0	146·5	135·9		75·4	
		45	0	153·7				
		50	0	157·0	133·8		73 0	
		55	0	157·1				
	13	0	0	159·6	137·3	70	74·7	
		5	0	158·1				
		10	0	171·1	137·7		77·2	
		15	0	168·3				
		20	0	171·7	127·4		72·1	
		25	0	164·4				
		30	0	177·0	119·8		74·5	
		35	0	180·1				
		40	0	182·3			74·8	
		42	30[a]	185·5	125·8			
		45	0	184·6				
		47	30	180·4			72·9	
		50	0	175·3				
		52	30	171 8	118·4			
		55	0	173·5				
		57	30	176·0			70·5	69
	14	0	0	177·4		70		
		2	30	176·6	111·6			
		5	0	176·8				
		7	30	180·2			59·8	
		10	0	181·2				
		12	30	182·4	99·2			
		15	0	185·0				
		17	30	186·7			54·6	
		20	0	185·2				
		22	30	184·6	98·8			
		25	0	183·3				
		27	30	179·8			55·1	
		30	0	174·5	101·5			
		32	30	172·8				
		35	0	171·3				
		37	30	171·3			56·5	
		40	0	173·9				
		42	30	175·9	110·3			
		45	0	176·1				
		47	30	172·1			53·3	
		50	0	168·9				

May 29 and 30, 1840.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
19	14	52	30	162·1	99·7			
		55	0	157·8	[c]			
		57	30	152·7			51·2	
	15	0	0	151·3				69
		2	30	153·3	84·9	70		
		5	0	155·9			40·1	
		7	30	157·1	82·0			
		10	0	159·3			41·8	
		12	30	161·7	80·8			
		15	0	164·5			44·2	
		17	30	168·4	91·6			
		20	0	168·1			52·3	
		22	30	169·7	97·3			
		25	0	170·4			53·4	
		27	30	168·8	93·7			
		30	0	170·5			48·1	
		32	30	171·7	84·6			
		35	0	164·9			27·5	
		37	30	170·8				
		40	0	179·6			27·4	
		42	30	160·6	67·2		[b]	
		45	0	138 8				
		47	30	133·1	41·2			
		50	0	133·7				
		52	30	143·3	36·6			
		55	0	148·4				
		57	30	147·6	22·1			
	16	0	0	136·5	[c]	70		69
		2	30	109·0				
		5	0	181·9				
		7	30	91·0				
		10	0	114·2				
		12	30	83·4				
		15	0	82·4				
		17	30	59·9				
		20	0	31·0				
		22	30	31·0				
		25	0	25·4				
		27	30	37·0				
		30	0	56·0			19·4	
		32	30	115·1				
		35	0	162·7			22·4	
		37	30	158·5				
		40	0	159·0				
		42	30	140·3	9·6			
		45	0	123·0			24·0	
		47	30	136·2	31·2			
		50	0	154·1			29·2	
		52	30	163·7	87·5			
		55	0	175·3			30·7	
		57	30	186·9	89·5			
	17	0	0	185·4			19·3	69
		2	30	176·1	75·8	70		

d. h. m.

29 17 57 Faint arch of light; dark clouds rising from North horizon, remainder clear.

18 42 Light increasing; numerous streamers, and flashes of a yellowish hue brightest in N.E.

57 An arch of dark clouds along North horizon; greatest alt. about 15° (in North); streamers rising from it from N.W. to N.E.; pulsations very vivid, striking upwards and in a horizontal direction, having a waving motion.

19 0 Light air from North; pulsations appearing affected by it; the flashes having a dancing motion, sideways as well as downwards, instead of their former uniform motion upwards.

5 Pulsations and streamers fainter; faint patches of light from N.W. to N.E.

37 Light very faint; a few streamers.

57 Two very clear streamers, one to the East the other to the West of North, with flashes between them, following each other in quick succession like waves.

d. h. m.

29 20 27 Light almost extinct; one very faint streamer to N.E.

57 Auroral light gone; sky clear until nearly noon, when it clouded over with cumuli and cumu-strati mixed with strati. Calm and partially clouded throughout the day; rugged and broken masses of cumu-strati covering the whole sky at about 7^h. 30^m. very black and dense in the N.W. The night and morning of the 31*st* were very clear; clouded again towards sunset, and a heavy thunderstorm with rain occurred during the night.

[a] The H. F. and V. F. were observed at the times specified, during the continuance of the extra observations, viz., from 29^d. 13^h. 42^m. 30^s. to 29^d. 19^h. 47^m. 30^s.

[b] The V. F. magnet was out of the field from 15^d. 45^h. to 16^d. 25^h.

[c] The scale of the H. F. magnet was out of the field from 16^h. 0^m. to 16^h. 40^m. During the periods of extreme disturbance the movements of the magnets were so rapid and irregular, that it was impossible to observe with the usual accuracy, especially with the V. F. magnet.

OBSERVATIONS WITH THE MAGNETOMETERS ON DAYS OF UNUSUAL MAGNETIC DISTURBANCE, 1840–1841.

May 29 and 30, 1840.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
29	17	5	0	183·1			10·4	
		7	30	171·2	81·2			
		10	0	163·6	79·8		14·6	
		12	30	161·2				
		15	0	157·3			17·5	
		17	30	166·5	72·3			
		20	0	176·7			25·9	
		22	30	190·1	84·9			
		25	0	187·7			25·1	
		27	30	181·7				
		30	0	166·0			20·5	
		32	30	156·0	99·6			
		35	0	153·6			32·9	
		37	30	153·7	108·6			
		40	0	157·0			38·4	
		42	30	155·3	99·7			
		45	0	153·4			34·3	
		47	30	157·4	95·1			
		50	0	164·0			39·2	
		52	30	164·0	98·6			
		55	0	165·5			36·9	
		57	30	167·4	106·7			
	18	0	0	173·2			53·5	69
		2	30	175·6	115·3	70		
		5	0	175·0			53·1	
		7	30	174·5	117·8			
		10	0	171·6			53·3	
		12	30	171·1	119·3			
		15	0	166·8			51·6	
		17	30	166·9	114·6			
		20	0	168·0	99·6		52·5	
		25	0	157·3				
		30	0	156·0				
		32	30	144·3	45·5			
		35	0	137·8			28·9	
		37	30	130·0	29·6			
		40	0	127·3			24·5	
		42	30	129·6	21·1			
		45	0	121·6			20·6	
		47	30	111·3	12·6			
		50	0	102·3	21·4		12·4	
		52	30					
		55	0	99·9			23·0	
		57	30	110·8	58·4			
	19	0	0	122·1			28·3	68
		2	30	114·1	72·4	69		
		5	0				30·3	
		7	30	122·2				
		10	0				26·8	
		12	30	131·4	78·9			
		15	0	136·0			27·6	
		17	30	143·6	80·8			
		20	0	147·4			28·1	
		22	30	149·4	93·4			
		25	0	150·4			28·5	
		27	30	150·8	102·9			
		30	0	149·2			32·9	
		32	30	151·5	98·2			
		35	0	152·0			31·4	
		37	30	157·7	101·6			
		40	0	157·9	102·6		36·2	
		45	0	164·6			38·4	
		47	30		103·8			
		50	0	169·3	106·8		41·4	
		55	0	172·3				
	20	0	0	174·9	114·0	69		68
		5	0	172·2				

May 29 and 30, 1840.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
29	20	10	0	173·6	118·2		50·6	
		15	0	174·4				
		20	0	175·2	115·7		48·9	
		25	0	180·0				
		30	0	181·8	123·3		49·9	
		35	0	182·9				
		40	0	178·7	125·1		55·6	
		45	0	178·2				
		50	0	176·2	129·6		56·5	
		55	0	174·7				
	21	0	0	169·6	133·4	68	57·4	69
		5	0	165·3				
		10	0	163·8	130·8		58·1	
		15	0	163·5				
		20	0	163·2	129·3		59·3	
		25	0	162·9				
		30	0	161·1	126·6		60·1	
		35	0	160·4				
		40	0	160·5	127·1		60·0	
		45	0	159·4				
		50	0	157·3	125·2		59·5	
		55	0	156·0				
	22	0	0	154·7	125 3	68		67
		5	0	156·5				
		10	0				58·4	
		15	0	150·4				
		20	0	161·3	130·7		59·8	
		25	0	162·0				
		30	0	161·2	130·0		60·6	
		35	0	161·7				
		40	0	161·7	126·9		60·3	
		45	0	160·2				
		50	0	159·9	127·1		60·2	
		55	0	158·8				
	23	0	0	156·5	123·6	67	60·3	67
		5	0	156·6				
		10	0	155·6	126·3		58·1	
		15	0	153·9				
		20	0	155·2	125·2		57·4	
		25	0	155·9				
		30	0	154·9	127·7		57·2	
		35	0	155·6				
		40	0	155·4	124·4		57·0	
		45	0	157·8				
		50	0	158·7	125·4		57·1	
		55	0	160·0				
30	0	0	0	158·0	124·0	66	56·8	66
		5	0	157·4				
		10	0	159·6	129·1		57·1	
		15	0	158·2				
		20	0	160·7	131·4		57·0	
		25	0	161·6				
		30	0	163·4	128·5		57·5	
		35	0	163·7				
		40	0	162·6	121·8		58·1	
		45	0	163·7				
		50	0	165·9	119·6		57·9	
		55	0	165·2				
	1	0	0	165·0	117·6	66	58·1	66
		5	0	163·0				
		10	0	163·0	115·7		58·4	
		15	0	161·8				
		20	0	160·7	112·3		58·6	
		25	0	159·5				
		30	0	158·7	115·4		58·5	
		35	0	157·3				
		40	0	157·7	117·3		58·5	

May 29 and 30, 1840.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
30	1	45	0	156·7				
		50	0	155·1	117·4		58·9	
		55	0	154·9				
	2	0	0	153·1	115·0	66	59·5	66
		5	0	150·9				
		10	0	151·0	119·4		59·0	
		15	0	153·6				
		20	0	158·3	111·4		59·2	
		25	9	155·6				
		30	0	153·1	117·7		59·3	
		35	0	148·5				
		40	0	147·6	114·6		59·6	
		45	0	147·1				
		50	0	144·1	109·4		57·1	
		55	0	145·4				
	3	0	0	145·1	109·4	67	56·3	66
		5	0	143·1				
		10	0	140·0	110·8		57·2	
		15	0	140·9				
		20	0	139·8	111·0		58·1	
		25	0	140·3				
		30	0	140·7	111·0		57·7	
		35	0	141·6				
		40	0	142·6	113·2		58·6	
		45	0	143·7				
		50	0	143·5	116·7		59·3	
		55	0	143·9				
	4	0	0	143·6	119·4	67	60·1	66
		5	0	143·3				
		10	0	142·7	121·6		60·8	
		15	0	142·6				
		20	0	142·5	121·1		60·9	
		25	0	143·8				
		30	0	143·7	124·9		62·9	
		35	0	143·7				
		40	0	143·6	128·1		63·9	
		45	0	144·3				
		50	0	145·1	131·8		64·4	
		55	0	145·5				
	5	0	0	145·1	135·0	67	64·4	67
		5	0	145·0				
		10	0	144·7	136·7		63·9	
		15	0	144·8				
		20	0	144·4	137·2		63·5	
		25	0	144·1				
		30	0	144·8	137·6		63·5	
		35	0	145·2				
		40	0	144·9	138·3		64·0	
		45	0	144·3				
		50	0	143·5	138·2		64·0	
		55	0	143·8				
	6	0	0	143·9	138·3	72	63·5	71
		5	0	143·5				
		10	0	143·8	139·7		63·2	
		15	0	143·9				
		20	0	144·1	142·2		62·9	
		25	0	144·2				
		30	0	144·7	143·7		62·9	
		35	0	145·3				
		40	0	145·5	144·9		62·8	
		45	0	145·7				
		50	0	146·0	145·8		62·9	
		55	0	146·2				
	7	0	0	146·7	146·5	67	63·3	66
		5	0	146·7				
		10	0	147·0	145·7		63·2	
		15	0	147·3				

May 29 and 30, 1840.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
30	7	20	0	147·3	145·0		62·9	
		25	0	147·1				
		30	0	147·1	144·0		60·0	
		35	0	147·2				
		40	0	147·6	144·5		58·7	
		45	0	148·0				
		50	0	148·2	146·3		60·0	
		55	0	148·7				
	8	0	0	149·0	148·0	67	59·1	67
		5	0	149·9				
		10	0	150·1	148·7		64·7	
		15	0	151·2				
		20	0	151·3	149·4		64·9	
		25	0	150·8				
		30	0	150·8	148·0		65·3	
		35	0	151·1				
		40	0	150·7	150·8		65·9	
		45	0	151·2				
		50	0	153·1	156·5		67·1	
		55	0	155·1				
	9	0	0	154·5	159·7	67	68·0	67
		5	0	155·1				
		10	0	154·6	159·7		68·6	
		15	0	153·8				
		20	0	154·8	157·2		69·5	
		25	0	155·7				
		30	0	161 4	159·1			
		35	0	155·6				
		40	0	156·9	149·1		71·0	
		45	0	158·6				
		50	0	161·9	155·9		72·0	
		55	0	166·6				
	10	0	0	167·7	192·3	68	72·4	68
		5	0					
		10	0	165·6	166·4			
		15	0	161·5				
		20	0	154·5	159·6		69·9	
		25	0	151·0				
		30	0	150·6	152·1		71·0	
		35	0	155·7				
		40	0	163·4	155·5		74·6	
		45	0	162·3				
		50	0	160·4	150·3		71·6	
		55	0	154·6				
	11	0	0	150·6	146·3	68	69·7	68
		5	0	150·6				
		10	0	150·5	142·0			
		15	0	151·0				
		20	0	151·9	139·4		65·3	
		25	0	153·1				
		30	0	152·5	142·0		63·8	
		35	0	151·7				
		40	0	151·1	140·2		62·7	
		45	0	151·4				
		50	0	151·2	140·1		66·7	
		55	0	151·0				
	12	0	0	151·2	143·8	68	67·0	68
	14	0	0	152·1	134·6	69	63·7	68
	16	0	0	153·8	136·5	68	60·2	68

Mean Positions at the usual hours of observation, between the 25th of May and the 4th June inclusive, omitting May 28 and 29.

	0	0	0	162·3	146·0	60	60·1	60
	2	0	0	164·5	145·1	60	60·3	60
	4	0	0	158·4	140·1	61	60·1	60

May 29 and 30, 1840.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
	6	0	0	150·1.	145·3	62	60·0	61
	8	0	0	147·1	150·8	62	60·3	61
	10	0	0	153·4	158·0	63	62·7	62
	12	0	0	154·9	150·4	63	62·5	63
	14	0	0	154·3	147·1	64	61·7	63
	16	0	0	154·8	145·1	64	61·7	64
	18	0	0	156·8	148·6	62	61·4	62
	20	0	0	156·7	146·0	61	61·0	61
	22	0	0	161·3	148·3	61	60·7	61

St. Helena { Decl. 1 Scale Division = 0′·71 ; H. F. k = ·00012 ; q = ; V. F. k = ·0004 ; q =

Regular and term observations, May 28th, 18^h., to May 29th, 12^h.

The V. F. was observed at 2^m. 30^s. before, and the H. F. at 2^m. 30^s. after the times specified.

28	18	0	0	39·0	38·3	63		
	20	0	0	44·2	42·5	63		
	22	0	0	41·5	38·5	63		
29	0	0	0	41·6	59·4	63		
	2	0	0	39·0	41·2	63		
	4	0	0	36·4	36·5	65		
	6	0	0	34·4	31·0	64		
	8	0	0	34·8	49·6	64		
	10	0	0		14·1	64		
		5	0	32 3				
		10	0	31·4	13·0			
		15	0					
		20	0	33·0	14·0			
		25	0	33·0				
		30	0	33·1	16·9			
		35	0	33·0				
		40	0	34·1	16·0			
		45	0	35·0				
		50	0	33·7	17·3			
		55	0	33·3				
	11	0	0	31·5	20·7	65		
		5	0	30·5				
		10	0	30·6	16·5			
		15	0	30·6				
		20	0	30·7	17·8			
		25	0	30·5				
		30	0	29·9	14·4			
		35	0	29·3				
		40	0	29·4	14·6			
		45	0	29·1				
		50	0	29·1	14·4			
		55	0	28·4				
	12	0	0	28·1	15·4	65		
		5	0	29·1				
		10	0	29·8	10·6			
		15	0	30·4				
		20	0	28·1	106·5			
		25	0	30·2				
		30	0	30·5	9·0			
		35	0	30·0				
		40	0	28·6	10·2			
		45	0	29·2				
		50	0	28·0	9·6			
		55	0	28·3				
	13	0	0	28·7	24·0	65		
		5	0	20·0				
		10	0	29·4	14·0			
		15	0	30·2				
		20	0	30·5	18·6			

May 29 and 30, 1840.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
29	13	25	0	28·8				
		30	0	20·0	10·4			
		35	0	28·3				
		40	0	28·2	9·4			
		45	0	29·2				
		50	0	29·0	20·2			
		55	0	28·5				
	14	0	0	28·2	19·5	65		
		5	0	28·4				
		10	0	28·3				
		15	0	27·5				
		20	0	26·9	24·2			
		25	0	27·5				
		30	0	28·0	20·2			
		35	0	27·8				
		40	0	25·4	19·2			
		45	0	31·5				
		50	0	29·7	18·5			
		55	0	28·6				
	15	0	0	28·5	17·6	65		
		5	0	29·1				
		10	0	28·2	18·2			
		15	0	28·1				
		20	0	27·9	20·6			
		25	0	26·6				
		30	0	27·5	18·4			
		35	0	28·4				
		40	0	27·3	19·5			
		45	0	28·2				
		50	0	28·5	19·9			
		55	0	29·6				
	16	0	0	30·1	19·4	65		
		5	0	30·1				
		10	0	29·8	17·6			
		15	0	29·1				
		20	0	29·0	17·7			
		25	0	29·9				
		30	0	31·5	20·0			
		35	0	31·5				
		40	0	32·9	21·5			
		45	0	31·4				
		50	0	33·0	25·0			
		55	0	32·8				
	17	0	0	31·4	28·5	65		
		5	0	22·0				
		10	0	32·7	29·0			
		15	0	32·5				
		20	0	31·0	29·0			
		25	0	31·6				
		30	0	31·2	28·9			
		35	0	32·0				
		40	0	32·8	28·0			
		45	0	32 6				
		50	0	33·6	28·0			
		55	0	33·1				
	18	0	0	33·4	24·4	64		
		5	0	32·0				
		10	0	32·6	22·0			
		15	0	32·5				
		20	0	33·1	22·2			
		25	0	32·6				
		30	0	32·7	22·0			
		35	0	32·5				
		40	0	31·1	21·3			
		45	0	32·4				
		50	0	32·5	21·0			
		55	0	32·6				

OBSERVATIONS WITH THE MAGNETOMETERS ON DAYS OF UNUSUAL MAGNETIC DISTURBANCE, 1840–1841.

May 29 and 30, 1840.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
29	19	0	0	32·9	20·0	65		
		5	0	33·0				
		10	0	33·5	18·3			
		15	0	34·2				
		20	0	34·4	17·5			
		25	0	34·9				
		30	0	35·9	17·5			
		35	0	36·4				
		40	0	36·5	18·4			
		45	0	36·9				
		50	0	37·4	19·6			
		55	0	37·6				
	20	0	0	39·2	20·8	65		
		5	0	39·1				
		10	0	41·7	22·1			
		15	0	40·0				
		20	0	38·5	21·3			
		25	0	40·0				
		30	0	40·1	21·8			
		35	0	40·4				
		40	0	40·5	21·3			
		45	0	37·6				
		50	0	39·9	21·2			
		55	0	39·6				
	21	0	0	40·0	20·8	65		
		5	0	39·2				
		10	0	38·8	21·8			
		15	0	40·8				
		20	0	38·0	22·3			
		25	0	38·2				
		30	0	40·5	23·4			
		35	0	38·3				
		40	0	38·5	24·5			
		45	0	38·2				
		50	0	37·2	25·8			
		55	0	37·6				
	22	0	0	37·7	27·1	64		
		5	0	36·8				
		10	0	35·8	27·3			
		15	0	38·3				
		20	0	35·5	26·7			
		25	0	35·5				
		30	0	34·9	27·0			
		35	0	34·7				
		40	0	34·9	28·0			
		45	0	34·3				
		50	0	34·4	28·4			
		55	0	34·7				
	23	0	0	34·7	29·5	64		
		5	0	35·0				
		10	0	35·1	29·6			
		15	0	35·1				
		20	0	35·3	30·1			
		25	0	35·3				
		30	0	35·3	30·4			
		35	0	35·5				
		40	0	35·9	30·2			
		45	0	35·7				
		50	0	35·5	30·8			
		55	0	35·7				
	30	0	0	35·4	30·5	64		
		5	0	36·1				
		10	0	34·5	30·0			
		15	0	33·9				
		20	0	33·7	30·2			
		25	0	33·7				
		30	0	33·9	30·3			

May 29 and 30, 1840.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
30	0	35	0	33·9				
		40	0	33·7	31·0			
		45	0	33·6				
		50	0	33·7	31·6			
		55	0	32·8				
	1	0	0	32 9	32·6	65		
		5	0	32·5				
		10	0	31·6	31·2			
		15	0	31·7				
		20	0	31·4	31·5			
		25	0	31·7				
		30	0	32·2	31·2			
		35	0	31·6				
		40	0	30·5	30·5			
		45	0	30·4				
		50	0	30·8	30·2			
		55	0	30·4				
	2	0	0	29·5	28·7	65		
		5	0	29·6				
		10	0	29·5	27·1			
		15	0	28·9				
		20	0	28·4	26·1			
		25	0	27·9				
		30	0	28·6	26·0			
		35	0	29·4				
		40	0	29·5	24·1			
		45	0	29·4				
		50	0	29·0	22·8			
		55	0	29·4				
	3	0	0	29·5	23·5	65		
		5	0	31·5				
		10	0	31·0	23·7			
		15	0	32·5				
		20	0	32·7	22·0			
		25	0	30·0				
		30	0	34·2	25·0			
		35	0	32·4				
		40	0	27·6	23·8			
		45	0	30·2				
		50	0	30·5	16·5			
		55	0	33·5				
	4	0	0	33·0	20·5	64		
		5	0	33·3				
		10	0	31·5	20·0			
		15	0	31·2				
		20	0	31·4	19·5			
		25	0	22·3				
		30	0	32·0	19·5			
		35	0	34·7				
		40	0	21·5	19·0			
		45	0	29·5				
		50	0	18·5	17·5			
		55	0	29·2				
	5	0	0	29·2	19·5	64		
		5	0	29·5				
		10	0	29·2	19·5			
		15	0	29·5				
		20	0	29·2	19·8			
		25	0	29·2				
		30	0	29·3	20·1			
		35	0	29·3				
		40	0	29·5	20·5			
		45	0	29·6				
		50	0	29·9	19·4			
		55	0	29·7				
	6	0	0	30·0	20·1	64		
		5	0	29·7				

May 29 and 30, 1840.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
30	6	10	0	31·4	19·8			
		15	0	31·1				
		20	0	29·4	19·9			
		25	0	30·8				
		30	0	31·5	19·7			
		35	0	32·9				
		40	0	32·9	19·3			
		45	0	33·0				
		50	0	33·0	18·9			
		55	0	33·4				
	7	0	0	33·1	18·6	64		
		5	0	33·4				
		10	0	33·5	18·4			
		15	0	33·6				
		20	0	33·1	18·6			
		25	0	33·2				
		30	0	33·3	18·5			
		35	0	33·3				
		40	0	32·6	18·2			
		45	0	32·0				
		50	0	32·0	18·4			
		55	0	32·0				
	8	0	0	31·6	18·5	66		
		5	0	31·4				
		10	0	30·4	18·5			
		15	0	31·4				
		20	0	31·8	18·5			
		25	0	31·9				
		30	0	32·0	18·1			
		35	0	32·2				
		40	0	31·7	18·5			
		45	0	31·9				
		50	0	31·8	18·5			
		55	0	32·4				
	9	0	0	31·5	17·9	65		
		5	0	31·5				
		10	0	28·7	17·5			
		15	0	29·1				
		20	0	29·3	17·5			
		25	0	28·5				
		30	0	28·9	18·7			
		35	0	29·2				
		40	0	29·0	20·0			
		45	0	29·0				
		50	0	29·1	20·0			
		55	0	30·0				
	10	0	0	29·5	22·0	65		
	12	0	0	32·0	21·5	65		

The Magnetometers were *not* in adjustment at this period during a sufficient number of consecutive days, to give satisfactory mean positions comparable with those of the 29th and 30th of May.

Antarctic Expedition at Kerguelen Island.

Decl. 1 Scale Division = 0′·73

H. F. k = ·00019; q =

The Magnetometers were observed simultaneously at the times specified.

28	18	0	0	56·8	50·1	38
	19	0	0	62·4	51·6	
	20	0	0	61·2	49·8	39
	21	0	0	62·2	52·9	
	22	0	0	63·7	55·5	39
	23	0	0	66·1	52·9	
29	0	0	0	68·5	50·2	39
	1	0	0	64·7	50·6	

May 29 and 30, 1840.								May 29 and 30, 1840.								May 29 and 30, 1840.							
M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.			M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.			M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °	d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °	d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
29	2	0	0	65·6	51·3	38			29	12	27	30	39·4	70·5				29	15	15	0	78·1	75·9			
	3	0	0	67·1	50·0						30	0	40·7	68·0						17	30	75·5	76·5			
	4	0	0	63·2	51·4	38					32	30	41·2	66·2						20	0	75·9	80·7			
	5	0	0	62·5	48·5						35	0	42·5	64·5						22	30	78·0	80·4			
	6	0	0	61·6	52·5	39					37	30	42·6	64·1						25	0	79·4	78·4			
	7	0	0	63·4	48·2						40	0	43·4	64·4						27	30	83·3	75·9			
	8	0	0	56·1	49·2	39					42	30	42·5	65·5						30	0	85·1	76·8			
	9	0	0	53·6	45·0						45	0	40·3	66·6						32	30	92·2	78·3			
	10	0	0	55·2	58·8	39					47	30	39·7	67·0						35	0	95·4	79·7			
		2	30	55·2	58·3						50	0	40·6	65·9						37	30	97·6	81·8			
		5	0	54·7	57·9						52	30	41·5	65·6						40	0	96·0	83·3			
		7	30	53·7	58·0						55	0	42·8	65·6						42	30	93·9	83·2			
		10	0	52·2	57·8						57	30	45·2	65·5						45	0	99·9	90·5			
		12	30	57·2	57·2					13	0	0	46·2	66·8	41					47	30	92·8	93·8			
		15	0	58·3	59·9						2	30	48·8	68·1						50	0	78·4	97·7			
		17	30	58·8	60·4						5	0	48·9	70·0						52	30	80·5	96·7			
		20	0	58·5	60·4						7	30	50·2	72·0						55	0	81·7	95·9			
		22	30	60·9	57·4						10	0	52·5	73·5						57	30	84·5	95·3			
		25	0	63·5	57·2						12	30	47·7	71·5					16	0	0	81·4	96·0	41		
		27	30	64·9	58·1						15	0	42·1	73·7						2	30	80·8	95·6			
		30	0	58·5	57·1						17	30	36·9	73·1						5	0	72·0	94·9			
		32	30	56·7	57·3						20	0	33·7	71·8						7	30	52·4	97·3			
		35	0	54·9	55·3						22	30	33·4	66·5						10	0	47·1	100·9			
		37	30	52·5	50·2						25	0	35·7	61·7						12	30	56·8	98·9			
		40	0	59·1	47·6						27	30	36·5	59·7						15	0	60·8	95·1			
		42	30	66·1	47·4						30	0	41·0	58·6						17	30	62·4	92·6			
		45	0	68·7	46·4						32	30	41·9	61·2						20	0	58·6	92·1			
		47	30	69·3	44·6						35	0	44·7	62·4						22	30	70·3	94·9			
		50	0	65·6	48·1						37	30	47·4	63·1						25	0	73·4	99·0			
		52	30	63·2	53·2						40	0	50·6	64·7						27	30	71·8	97·0			
		55	0	60·7	53·7						42	30	52·9	67·1						30	0	74·3	97·8			
		57	30	52·5	57·7						45	0	53·8	70·3						32	30	74·1	101·2			
11	0	0		43·9	59·2	41					47	30	54·0	75·2						35	0	69·9	100·1			
	2	30		40·7	51·3						50	0	55·6	75·3						37	30	71·5	97·6			
	5	0		47·3	50·5						52	30	56·1	71·8						40	0	67·5	102·1			
	7	30		53·0	52·5						55	0	58·1	69·1						42	30	80·1	109·6			
	10	0		61·2	57·7						57	30	60·1	70·7						45	0	91·9	114·6			
	12	30		67·2	65·1					14	0	0	61·3	70·2	41					47	30	84·0	117·6			
	15	0		69·3	72·8						2	30	64·3	71·3						50	0	110·2	120·0			
	17	30		64·4	78·7						5	0	67·8	73·3						52	30	110·5	110·2			
	20	0		51·3	76·8						7	30	71·4	76·0						55	0	101·9	110·6			
	22	30		44·6	75·8						10	0	74·8	76·4						57	30	102·9	111·9			
	25	0		41·6	73·2						12	30	74·3	78·0					17	0	0	99·2	109·1	41		
	27	30		41·8	70·9						15	0	74·6	79·7						2	30	88·6	113·9			
	30	0		38·7	71·1						17	30	75·4	78·2						5	0	97·0	109·2			
	32	30		39·2	70·3						20	0	76·3	76·6						7	30	102·5	106·9			
	35	0		38·6	70·5						22	30	75·3	74·0						10	0	103·2	95·7			
	37	30		34·7	70·8						25	0	73·8	72·4						12	30	101·7	92·7			
	40	0		37·1	70·1						27	30	68·5	73·2						15	0	100·5	89·3			
	42	30		40·2	70·4						30	0	63·5	74·0						17	30	101·9	83·5			
	45	0		43·3	72·3						32	30	61·8	72·7						20	0	101·6	80·8			
	47	30		47·5	74·9						35	0	62·6	72·3						22	30	99·3	81·4			
	50	0		49·2	74·9						37	30	63·0	73·5						25	0	99·6	76·0			
	52	30		50·4	75·3						40	0	65·2	73·7						27	30	98·0	76·6			
	55	0		49·2	74·9						42	30	68·1	73·2						30	0	93·0	77·2			
	57	30		46·6	75·7						45	0	73·3	71·7						32	30	92·1	70·5			
12	0	0		45·8	75·2	41					47	30	75·6	70·9						35	0	90 7	70·3			
	2	30		42·1	77·2						50	0	75·7	74·0						37	30	90·1	70·1			
	5	0		39·8	77·6						52	30	75·4	76·7						40	0	84·6	71·5			
	7	30		37·6	75·8						55	0	74·4	76·0						42	30	86·4	67·0			
	10	0		37·4	74·4						57	30	74·0	76·2						45	0	85·0	69·0			
	12	30		35·7	75·7					15	0	0	74·1	76·5	41					47	30	83·7	67·9			
	15	0		34·9	76·3						2	30	71·2	74·1						50	0	82·4	64·7			
	17	30		36·6	76·6						5	0	68·8	81·0						52	30	82·2	64·7			
	20	0		39·1	76·1						7	30	69·7	80·0						55	0	80·2	63·4			
	22	30		38·8	73·5						10	0	75·5	80·8						57	30	80·3	64·3			
	25	0		39·1	72·6						12	30	71·8	78·4					18	0	0	82·1	63·4	42		

May 29 and 30, 1840.							May 29 and 30, 1840.							May 29 and 30, 1840.						
M. Gött. Time.	Decl.	Hor. Force.		Vert. Force.			M. Gött. Time.	Decl.	Hor. Force.		Vert. Force.			M. Gött. Time.	Decl.	Hor. Force.		Vert. Force.		
d. h. m. s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °		d. h. m. s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °		d. h. m. s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °	
29 18 2 30	83·6	61·4					29 20 50 0	64·1	64·0					29 23 37 30	60·7	64·0				
5 0	81·1	61·3					52 30	60·0	63·8					40 0	61·6	63·9				
7 30	77·6	61·6					55 0	60·5	64·0					42 30	62·0	63·8				
10 0	74·7	61·5					57 30	60·7	63·7					45 0	63·6	63·7				
12 30	71·6	61·9					21 0 0	61·4	62·9	44				47 30	62·7	64·0				
15 0	69·7	60·2					2 30	58·4	63·2					50 0	62·4	63·8				
17 30	67·2	60·3					5 0	62·1	62·9					52 30	63·5	63·3				
20 0	70·9	60·1					7 30	63·6	62·9					55 0	64·3	63·1				
22 30	68·7	61·5					10 0	62·8	62·7					57 30	64·5	63·8				
25 0	65·6	62·5					12 30	63·4	63 0					30 0 0 0	64·6	64·0	44			
27 30	70·1	60·4					15 0	62·6	62·3					2 30	64·5	64·4				
30 0	68·2	61·8					17 30	64·6	62·9					5 0	63·8	64·8				
32 30	68·9	62·7					20 0	65·1	63·0					7 30	62·8	64·5				
35 0	68·6	64·5					22 30	63·0	62·7					10 0	62·4	64·5				
37 30	75·5	65·0					25 0	62·2	61·9					12 30	62·5	64·7				
40 0	66·3	65·9					27 30	62·4	62·5					15 0	61·1	64·8				
42 30	64·1	67·1					30 0	62·6	62·3					17 30	61·0	64·5				
45 0	62·8	67·4					32 30	62·7	62·7					20 0	61·5	64·0				
47 30	60·8	68·2					35 0	62·2	62·8					22 30	61·1	63·6				
50 0	60·3	67·5					37 30	62·6	63·4					25 0	59·1	63·2				
52 30	61·3	67·9					40 0	63·8	62·9					27 30	58·8	62·7				
55 0	61·0	67·2					42 30	68·6	63·0					30 0	59·2	61·8				
57 30	61·0	67·0					45 0	62·9	63·1					32 30	59·7	61·3				
19 0 0	60·6	66·6	43				47 30	63·0	63·2					35 0	61·5	61·4				
2 30	61·0	66·2					50 0	62·6	63·5					37 30	60·6	61·5				
5 0	60·9	66·2					52 30	62·8	63·2					40 0	60·8	61·8				
7 30	58·0	66·5					55 0	62·9	63·1					42 30	61·2	61·9				
10 0	57·1	66·5					57 30	62·2	63·2					45 0	60·5	62·5				
12 30	57·0	66·1					22 0 0	62·4	62·9	44				47 30	60·3	62·4				
15 0	57·5	65·5					2 30	62·1	62·9					50 0	60·2	62·2				
17 30	58·0	65·3					5 0	62·1	62·6					52 30	60·6	61·7				
20 0	56·4	65·2					7 30	62·4	62·6					55 0	60·2	61·9				
22 30	56·2	64·4					10 0	63·5	63·2					57 30	60·5	61·7				
25 0	58·2	64·0					12 30	64·3	63·6					1 0 0	61·0	62·2	43			
27 30	59·5	65·3					15 0	62·2	63·8					2 30	60·5	63·0				
30 0	61·3	65·3					17 30	61·6	63·0					5 0	60·7	63·7				
32 30	61·0	65·5					20 0	61·9	62·6					7 30	60·2	64·0				
35 0	60·7	65·8					22 30	59·9	63·2					10 0	58·6	64·3				
37 30	59·6	66·5					25 0	59·7	63·0					12 30	57·8	64·0				
40 0	59·7	66·2					27 30	59·8	62·6					15 0	54·8	64·1				
42 30	60·5	65·9					30 0	59·5	62·4					17 30	52·7	63·7				
45 0	60·8	66·1					32 30	59·8	61·7					20 0	52·1	62·9				
47 30	62·5	66·6					35 0	60·1	61·5					22 30	52·5	61·0				
50 0	63·2	67·1					37 30	59·9	61·4					25 0	53·7	60·9				
52 30	63·5	67·8					40 0	60·0	61·5					27 30	55·3	60·9				
55 0	62·9	67·7					42 30	60·8	61·6					30 0	55·7	61·0				
57 30	63·4	67·6					45 0	61·6	61·6					32 30	57·5	60·4				
20 0 0	61·8	67·5	43				47 30	60·5	61·9					35 0	61·9	60·3				
2 30	59·4	67·3					50 0	62·0	61·9					37 30	61·1	61·3				
5 0	59·1	66·7					52 30	65·5	61·8					40 0	62·3	62·4				
7 30	60·6	65·1					55 0	60·9	61·8					42 30	60·7	62·9				
10 0	60·5	65·4					57 30	63·4	61·8					45 0	59·4	61·1				
12 30	59·7	64·8					23 0 0	61·6	62·1	43				47 30	59·7	59·5				
15 0	59·3	64·8					2 30	60·7	60·6					50 0	60·9	59·9				
17 30	60·5	63·8					5 0	61·3	62·3					52 30	61·6	60·8				
20 0	61·7	64·1					7 30	60·8	62·5					55 0	61·5	62·5				
22 30	62·0	65·3					10 0	61·2	62·6					57 30	60·3	63·0				
25 0	60·6	65·4					12 30	62·3	62·8					2 0 0	60·5	62·6	43			
27 30	60·8	64·9					15 0	62·5	62·9					2 30	61·6	63·1				
30 0	60·8	64·4					17 30	62·2	62·9					5 0	61·6	63·3				
32 30	59·8	65·2					20 0	61·9	63·7					7 30	59·9	67·6				
35 0	64 8	58·8					22 30	61·6	63·7					10 0	59·9	66·5				
37 30	60·8	62·0					25 0	61·8	63·4					12 30	60·2	66·2				
40 0	64·9	61·9					27 30	61·7	63·6					15 0	60·7	66·5				
42 30	60·8	63·1					30 0	61·4	63·6					17 30	59·0	67·2				
45 0	61·5	64·1					32 30	61·3	63·8					20 0	58·5	67·2				
47 30	63·9	64·0					35 0	60·9	64·1					22 30	57·5	67·0				

MAY 29 and 30, 1840.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
30	2	25	0	55·9	67·5			
		27	30	55·1	65·2			
		30	0	55·5	65·1			
		32	30	53·3	66·2			
		35	0	53·1	66·1			
		37	30	52·7	65·5			
		40	0	50·7	66·7			
		42	30	43·6	67·1			
		45	0	42·2	58·1			
		47	30	46·1	56·8			
		50	0	49·1	57·3			
		52	30	50·7	59·0			
		55	0	51·1	61·0			
		57	30	50·9	60·5			
	3	0	0	49·3	59·6	43		
		2	30	48·8	56·6			
		5	0	50·5	56·5			
		7	30	51·5	56·9			
		10	0	51·5	57·0			
		12	30	54·0	57·3			
		15	0	56·4	60·4			
		17	30	56·5	61·4			
		20	0	56·5	63·9			
		22	30	55·5	63·8			
		25	0	55·0	61·5			
		27	30	56·1	61·0			
		30	0	57·8	62·2			
		32	30	57·4	61·6			
		35	0	57·6	61·8			
		37	30	56·3	62·0			
		40	0	56·3	61·5			
		42	30	56·8	61·5			
		45	0	56·8	61·7			
		47	30	56·4	61·1			
		50	0	57·4	61·0			
		52	30	57·7	61·6			
		55	0	57·6	61·5			
		57	30	57·8	61·4			
	4	0	0	58·1	61·6	43		
		2	30	58·1	62·0			
		5	0	57·1	61·9			
		7	30	57·7	61·6			
		10	0	57·9	62·0			
		12	30	56·3	62·1			
		15	0	56·2	62·2			
		17	30	55·7	62·1			
		20	0	55·1	62·0			
		22	30	55·5	61·2			
		25	0	56·1	61·1			
		27	30	56·5	61·2			
		30	0	56·9	61·5			
		32	30	57·1	61·7			
		35	0	57·3	61·8			
		37	30	56·7	61·8			
		40	0	56·4	61·6			
		42	30	56·4	61·7			
		45	0	56·7	61·6			
		47	30	57·0	61·6			
		50	0	57·8	61·1			
		52	30	58·1	61·4			
		55	0	58·2	61·5			
		57	30	58·1	61·5			
	5	0	0	57·9	61·5	43		
		2	30	57·5	61·6			
		5	0	57·3	61·6			
		7	30	57·1	61·4			
		10	0	56·8	61·6			

MAY 29 and 30, 1840.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
30	5	12	30	56·5.	61·2			
		15	0	56·6	61·0			
		17	30	56·4	60·7			
		20	0	56·8	60·7			
		22	30	56·6	60·7			
		25	0	56·5	60·8			
		27	30	56·5	60·5			
		30	0	56·1	60·5			
		32	30	55·9	60·2			
		35	0	55·9	60·2			
		37	30	56·1	60·2			
		40	0	56·2	60·1			
		42	30	57·4	60·0			
		45	0	57·1	60·4			
		47	30	57·2	60·4			
		50	0	57·2	60·6			
		52	30	57·2	60·6			
		55	0	56·8	60·6			
		57	30	56·8	60·4			
	6	0	0	56·7	60·4	43		
		2	30	56·9	60·4			
		5	0	56·8	60·1			
		7	30	56·8	60·1			
		10	0	56·9	59·9			
		12	30	56·8	59·8			
		15	0	56·9	60·0			
		17	30	57·6	60·3			
		20	0	57·0	60·4			
		22	30	56·9	60·4			
		25	0	56·9	60·2			
		27	30	56·8	60·3			
		30	0	56·9	60·3			
		32	30	57·1	60·1			
		35	0	57·5	60·2			
		37	30	57·6	60·2			
		40	0	57·6	60·1			
		42	30	57·7	60·0			
		45	0	58·1	60·0			
		47	30	58·2	60·1			
		50	0	57·8	60·1			
		52	30	57·6	60·0			
		55	0	57·5	60·0			
		57	30	57·5	60·0			
	7	0	0	57·4	60·0	43		
		2	30	57·5	59·9			
		5	0	57·7	59·8			
		7	30	57·8	59·9			
		10	0	57·9	60·0			
		12	30	57·8	60·1			
		15	0	57·8	60·1			
		17	30	57·8	60·1			
		20	0	57·7	60·1			
		22	30	57·6	59·9			
		25	0	57·9	60·0			
		27	30	57·8	60·0			
		30	0	58·1	60·0			
		32	30	58·2	59·9			
		35	0	58·2	60·0			
		37	30	58·5	60·0			
		40	0	58·6	59·9			
		42	30	58·6	59·9			
		45	0	58·5	59·7			
		47	30	58·5	59·5			
		50	0	58·7	59·5			
		52	30	58·6	59·4			
		55	0	58·8	59·1			
		57	30	59·0	59·0			

MAY 29 and 30, 1840.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
30	8	0	0	59·0	59·0	43		
		2	30	59·0	59·0			
		5	0	58·8	59·0			
		7	30	57·6	59·0			
		10	0	58·2	59·0			
		12	30	58·2	59·0			
		15	0	58·3	58·6			
		17	30	58·6	58·7			
		20	0	58·5	58·6			
		22	30	58·5	58·6			
		25	0	58·4	58·8			
		27	30	58·3	58·8			
		30	0	58·0	59·1			
		32	30	58·0	59·2			
		35	0	58·0	59·1			
		37	30	58·1	59·1			
		40	0	58·2	58·8			
		42	30	58·2	58·4			
		45	0	58·3	59·2			
		47	30	58·0	59·2			
		50	0	58·0	59·1			
		52	30	57·6	59·3			
		55	0	56·6	59·3			
		57	30	55·9	59·5			
	9	0	0	54·8	59·5	44		
		2	30	54·1	59·6			
		5	0	53·3	59·2			
		7	30	53·4	59·2			
		10	0	53·3	59·5			
		12	30	54·1	59·8			
		15	0	53·8	60·1			
		17	30	53·4	59·7			
		20	0	53·6	59·4			
		22	30	53·7	59·4			
		25	0	54·2	59·0			
		27	30	55·8	59·8			
		30	0	57·8	60·6			
		32	30	58·3	61·5			
		35	0	58·5	62·5			
		37	30	58·5	63·2			
		40	0	58·1	64·0			
		42	30	58·1	65·7			
		45	0	52·6	65·7			
		47	30	51·1	65·2			
		50	0	55·0	64·6			
		52	30	54·9	64·1			
		55	0	54·8	62·6			
		57	30	55·8	59·7			

Mean Positions at the usual hours of observation, from May 27th to June 27th inclusive.

0	0	0	60·9	54·2	38
1	0	0	59·9	52·9	
2	0	0	59·2	52·1	37
3	0	0	58·9	52·4	
4	0	0	57·9	52·5	37
5	0	0	57·9	52·5	
6	0	0	57·1	52·9	37
7	0	0	57·4	52·8	
8	0	0	57·0	52·2	37
9	0	0	57·1	51·8	
10	0	0	59·1	52·4	37
11	0	0	58·7	52·6	
12	0	0	58·3	53·4	36
13	0	0	59·5	52·2	
14	0	0	60·1	51·9	36

May 29 and 30, 1840.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther.	Sc.-Div^{ns}.	Ther.
						°		°
	15	0	0	59·3	52·1			
	16	0	0	58·9	51·8	36		
	17	0	0	59·1	51·6			
	18	0	0	56·7	51·8	36		
	19	0	0	56·3	52·8			
	20	0	0	57·0	54·5	37		
	21	0	0	58·1	55·6			
	22	0	0	59·9	55·8	37		
	23	0	0	60·0	55·7			

July 5 and 6, 1840.

Toronto { Decl. 1 Scale Division = 0′·72; H. F. k = ·00021; q = ·00034; V. F. k = ·0002; q = ·0002

Extra and regular observations.

The V. F. was observed at 1^m. 30^s. before, and the H. F. 2^m. 0^s. after the times specified.

5	18	0	0	65·9	41·6	67	38·0	67
		24	18	31·4	52·9		30·0	
		29	18	30·0	52·3		30·1	
		34	18	33·2	50·9		31·6	
		39	18	33·0	48·7		31·6	
		44	18	32·8	46·1		31·9	
		49	18	38·0	45·1		32·9	
		54	18	39·0	39·2		33·6	
		59	18	40·0	39·5		32·7	
	19	4	18	40·2	41·2	67	32·3	67
		9	18	38·0	38·9		32·3	
		14	18	35·7	37·4		32·1	
		24	18	45·5	41·6		31·9	
		29	18	47·2	43·3		31·8	
		34	18	48·6	44·3		31·8	
		39	18	48·9	45·5		34·1	
		44	18	51·0	49·2		34·8	
	20	0	0	43·2	37·5	67	34·3	67
		14	18	36·6	43·0		34·8	
		19	18	42·0	52 3		39·6	
		24	18	42·3	50·9		38·8	
		29	18	40 8	49·7		39·7	
		34	18	47·0	49·1		38·2	
		39	18	54·9	51·8		30·5	
		44	18	58·5	50·6		35·1	
		49	18	59·4	51·5		35·1	
		59	18	52·0	50·0		40·7	
	21	4	18	44·5	51·6	67	40·7	68
		9	18	42·0	51·7		40·0	
		14	18	39·6	51·9		40·0	
		19	18	37·5	47·1		36·4	
		24	18	38·1	48·8		36·4	
		29	18	41·4	49·4		39·6	
		34	18	41·6	47·8		39·6	
		44	18	39·0	49·2		37·4	
		49	18	38·7	48·6		37·7	
	22	0	0	41·4	49·5	68	38·9	68
6	0	0	0	28·3	64·6	67	46·2	67
	2	0	0	36·0	56·2	67	48·8	67
	4	0	0	17·0	65·3	69	48·5	68
	6	0	0	7·0	67·2	69	49·6	68
	8	0	0	7·5	76·5	70	49·1	69

July 5 and 6, 1840.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther.	Sc.-Div^{ns}.	Ther.
						°		°
6	10	0	0	12·6	86·7	71	52·0	70
	12	0	0	17·7	74·9	71	51·7	70
	14	0	0	12·2	67·3	71	50·7	71
	16	0	0	12·5	66·8	71	48·6	70
	18	0	0	14·4	70·8	70	48·7	70
	20	0	0	15·4	74·7	70	49·3	69
	22	0	0	19·2	72·2	69	45·4	69

Mean Positions at the usual hours of observation during the Month.[a]

	0	0	0	22·6	75·3	68	47·3	66
	2	0	0	24·2	70·6	68	47·2	66
	4	0	0	19·3	66·8	69	47·5	67
	6	0	0	9·2	71·8	69	47·8	68
	8	0	0	7·5	79·3	70	48·8	68
	10	0	0	11·6	80·2	71	49·1	69
	12	0	0	15·3	74·6	71	49·5	70
	14	0	0	16·0	73·5	71	49·6	70
	16	0	0	17·2	72·7	71	49·6	70
	18	0	0	20·2	71·0	70	46·7	68
	20	0	0	21·5	71·2	69	46·7	68
	22	0	0	20·8	73·1	68	46·3	67

St. Helena { Decl. 1 Scale Division = 0′·71; H. F. k = ·00013; q = ·0003

Positions at the usual hours of observation, from July 5, 14^h. to July 6, 22^h.

5	14	0	0	73·4	63·2	61		
	16	0	0	72·1	57·9	61		
	18	0	0	71·7	62·9	61		
	20	0	0	77·3	60·5	61		
	22	0	0	77·5	58·8	61		
6	0	0	0	73·0	59·5	62		
	2	0	0	67·1	62·1	62		
	4	0	0	68·2	56·4	63		
	6	0	0	67·1	51·7	63		
	8	0	0	63·8	48·6	63		
	10	0	0	68·0	54·8	62		
	12	0	0	69·5	55·2	62		
	14	0	0	69·4	57·6	62		
	16	0	0	71·0	55·7	62		
	18	0	0	73·1	59·0	62		
	20	0	0	73·5	62·0	61		
	22	0	0	71·6	71·0	62		

Mean Positions at the same hours during the Month.[b]

	0	0	0	71·5	72·4	61		
	2	0	0	71·8	71·2	62		
	4	0	0	72·0	64·9	63		
	6	0	0	70·4	61·2	62		
	8	0	0	71·5	60·5	62		
	10	0	0	71·9	61·2	62		
	12	0	0	72·2	61·5	62		
	14	0	0	72·5	62·8	61		
	16	0	0	72·3	63·1	61		
	18	0	0	72·8	64·5	61		
	20	0	0	75·6	66·1	61		
	22	0	0	72·5	70·6	61		

July 17 and 18, 1840.

Toronto { Decl. 1 Scale Division = 0′·72; H. F. k = ·00021; q = ·00034; V. F. k = ·0002; q = ·0002

Extra observations.

The V. F. was observed at 1^m. 30^s. before, and the H. F. 2^m. 30^s. after the times specified.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther.	Sc.-Div^{ns}.	Ther.
						°		°
17	5	29	43	12·2	65·8		61·9	
		34	43	11·2	68·0		62·6	
		39	43	10·2	68·0		62·7	
		44	43	9·3	69·7		62·7	
		49	43	10·4	67·0		63·1	
		59	43	7·9	69·6		63·3	
	6	4	43	5·5	69·0	74	63·4	74
		9	43	7·1	66·4		63·5	
		14	43	7·8	74·7		63·6	
		19	43	6·5	75·9		63·9	
		24	43	6·4	74·2		63·8	
		29	43	6·0	74·0		63·7	
		34	43	6·3	73·9		63·6	
		39	43	5·6	75·7		63·7	
		44	43	5·0	76·0		63·7	
		49	43	5·0	76·5		63·8	
	7	29	43	3·8	80·6		60·6	
		34	43	4·7	83·1		64·8	
		39	43	5·9	83·9		63·3	
		44	43	6·9	83·0		63·0	
		49	43	6·9	84·3		64·7	
		59	43	7·0	83·6		64·9	
	8	9	43	7·7	83·1	74	63·5	74
		14	43	7·9	81·0		63·5	
		19	43	9·9	82·3		63·7	
		24	43	10·9	84·1		64·0	
		29	43	11·1	86·3		64·4	
		34	43	11·2	88·1		64·6	
		39	43	10·0	88·3		64·8	
		44	43	9·0	86·0		64·8	
		49	43	9·1	84·4		64·7	
		54	43	8·1	80·1		65·2	
		59	43	8·7	80·6		65·0	
	9	4	43	8·0	80·1	74	64·9	74
		9	43	8·0	80·3		65·3	

Positions at the usual hours of observation, from July 17d. 0h. to July 18d. 16h.

17	0	0	0	10·8	69·1	75	50·5	75
	2	0	0	15·1	54·9	74	55·9	74
	4	0	0	19·1	57·0	74	58·3	74
	6	0	0	7·9	69·6	74	63·3	74
	8	0	0	7·0	83·6	74	64·9	74
	10	0	0	13·0	84·1	74	66·9	74
	12	0	0	10·5	73·8	74	65·7	74
	14	0	0	17·9	67·3	73	64·3	73
	16	0	0	17·6	72·0	73	62·9	73
	18	0	0	12·0	68·4	72	60·7	73
	20	0	0	31·9	58 7	71	51·5	72
	22	0	0	29·2	69·7	70	47·2	71
18	0	0	0	9·6	69·5	69	44·8	69
	2	0	0	17·8	59·8	70	50·7	71
	4	0	0	16·5	58·2	70	54·6	70
	6	0	0	15·1	68·1	71	58·5	70

[a] The mean positions of the Declination magnet are from the 3rd to the 25th July inclusive; those of the H. F. magnet from the 1st to the 18th inclusive; and those of the V. F. magnet from the 1st to the 14th inclusive.

[b] The mean positions of the H. F. magnet are from the 1st to the 11th July inclusive.

July 17 and 18, 1840.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
18	8	0	0	5·0	74·1	71	63·1	71
	10	0	0	7·0	87·8	72	62·8	72
	12	0	0	13·9	77·2	74	60·4	73
	14	0	0	13·5	76·4	74	60·5	74
	16	0	0[a]	11·2	72·7	73	60·8	73

The Mean Positions of the Decl. and H. F. magnetometers are given in page 11.[b]

St. Helena { Decl. 1 Scale Division = 0′·71
H. F. k = ·00018; q = ·0003

Positions at the usual hours of observation, from July 17d. 0h. to July 18d. 12h.

17	0	0	0	71·6	56·5	62
	2	0	0	71·0	56·0	62
	4	0	0	69·8	49·2	63
	6	0	0	69·9	46·1	63
	8	0	0	71·4	45·0	62
	10	0	0	73·1	47·6	62
	12	0	0	73·0	44·6	62
	14	0	0	73·5	46·5	
	16	0	0	74·6	51·1	
	18	0	0	73·5	50·9	61
	20	0	0	76·5	55·0	61
	22	0	0	73·5	52·6	61
18	0	0	0	69·7	50·8	62
	2	0	0	71·3	51·6	62
	4	0	0	71·2	45·5	62
	6	0	0	70·0	47·5	63
	8	0	0	71·5	43·5	63
	10	0	0	71·8	47·8	63
	12	0	0	72·5	49·0	63

Mean Positions at the same hours during the Month.[c]

0	0	0	71·5	67·8	61
2	0	0	71·8	65·7	62
4	0	0	72·0	62·0	62
6	0	0	70·4	59·9	62

July 17 and 18, 1840.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
	8	0	0	71·5	58·1	61		
	10	0	0	71·9	57·8	61		
	12	0	0	72·2	57·2	61		
	14	0	0	72·5	59·2	61		
	16	0	0	72·3	59·3	61		
	18	0	0	72·8	60·4	61		
	20	0	0	75·6	61·7	60		
	22	0	0	72·5	64·9	60		

August 19, 20, and 21, 1840.

Toronto { Decl. 1 Scale Division = 0′·72
H. F. k = ·00022; q = ·00034
V. F. k = ·00016; q = ·0002

Regular and extra observations.

The V. F. was observed at 1m. 30s. before, and the H. F. at 1m. 30s. after the times specified.

19	0	0	0	59·3	152·4	70	49·0	69
	2	0	0	55·7	133·1	71	46·6	68
	4	0	0	41·7	145·3	72	44·1	69
	6	0	0	33·3	146·1	73	45·6	70
	8	0	0	40·4	146·2	74	48·2	71
	10	0	0	34·2	145·4	75	57·3	72
	12	0	0	47·6	142·5	76	58·4	73
	14	0	0[d]	70·3	132·1	76	66·6	72
		52	30	63·0	129·1		53·4	
		57	30	62·6	129·8		53·2	
15	2	30		59·2	127·4	76	52·2	76
	7	30		60·0	127·8		52·2	
	17	30		59·0	122·5		52·3	
	22	30		61·0	119·1		51·8	
	27	30		64·6	122·0		51·9	
	32	30		68·0	120·2		53·6	
	37	30		85·5	112·2		57·9	
	42	30		94·4	116·9		56·8	
	47	30		94·0	114·5		56·7	
	52	30		91·2	118·8		56·0	
16	0	0		87·3	119·0	76	54·8	76

August 19, 20, and 21, 1840.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
19	16	7	30	77·4	123·8		54·4	
		12	30	69·2	123·0		51·5	
		17	30	66·8	123·7		50·5	
		22	30	66·0	126·7		49·4	
		32	30	63·2	128·5		48·4	
		37	30	60·3	127·5		46·6	
		47	30	65·2	123·3		46·5	
		52	30	71·9	122·5		46·5	
		57	30	70·5	125·3		46·7	
	17	2	30	61·7	127·3	76	47·0	76
		7	30	59·0	126·9		45·5	
		12	30	60·1	126·0		46·7	
		17	30	60·0	126·3		46·0	
		27	30	59·7	126·8		45·9	
		47	30	56·8	126·6		47·7	
	18	0	0	56·0	128·4	75	48·8	74
	20	0	0	56·4	137·5	74	47·6	74
	22	0	0	52·4	143·7	73	51·8	74
20	0	0	0	55·5	144·8	72	50·8	72
	2	0	0	59·3	138·9	72	50·7	71
	4	0	0	43·1	128·3	72	49·5	72
	6	0	0	43·1	139·2	73	51·4	72
	8	0	0	41·4	145·0	74	52·4	73
	10	0	0	45·5	142·8	75	53·0	74
	12	0	0	48·2	146·2	76	54·2	75
	14	0	0	50·4	141·5	76	52·8	75
	16	0	0	52·5	139·3	75	53·4	75
	18	0	0	49·2	140·1	75	50·6	75
	20	0	0	47·8	138·4	74	42·7	74
	22	0	0	51·0	139·3	74	46·0	74
21	0	0	0	52·5	138·6	73	46·9	73
	2	0	0	59·6	138·2	73	47·3	73
	4	0	0	42·0	137·0	74	49·1	74
	6	0	0	39·7	138·0	75	50·7	74
	8	0	0	42·2	142·4	76	52·2	75
	10	0	0	46·1	146·9	77	52·8	76
	12	0	0	46·0	138·1	77	52·7	76
	14	0	0	47·0	136·0	77	51·5	77
	16	0	0	65·6	133·9	76	47·7	76
	18	0	0[e]	45·4	124·0	76	37·4	76

[a] Saturday midnight at Toronto.

[b] In consequence of breaks in the series, there are no mean positions of the V. F. magnet comparable with the positions of July 18th and 19th.

[c] The mean positions of the H. F. magnet are from the 15th to the 31st July inclusive.

d.	h.	m.	Wind.	
[d]19	14	0	Calm	Arch of light in north horizon extending from N.E. to N.W.; centre about 5° East of North, alt. 20°; remainder perfectly clear.
	15	0	Calm	A double arch of auroral light extending from N.E. to N.W.; greatest alt. of interior arch about 15°, of exterior 20°, centre of arches about 5° E. of N.; remainder of sky clear.
		2	Calm	Faint pulsations or waves of light alternately advancing and receding from principal arch; no streamers. Two meteors, second magnitude, fell from zenith towards N.W.
		9	Calm	A bright patch forming in North and progressing Westward, shooting up streamers during its course to an alt. of 45°.
		17	Calm	Three bright concentric arches of light; alt. of exterior arch 35°; stars visible between second and third arches. Streamer like a pillar, rising from a bright patch and progressing Westward, became indistinct in N. N. W. Another meteor from alt. 70° to 30°, direction N.W.
		27	Calm	Two arches increasing in extent from E.N.E. to W.N.W., alt. 40°, with strongly defined upper surfaces, although occasionally breaking into irregular surface-like waves, and shooting up a series of small streamers from the more prominent parts. Stars visible below the interior arch.
		42	Calm	Arch-like character of Aurora nearly gone, leaving a continuous chain of bright patches in its stead, each shooting up streamers of considerable brilliancy. One in West of great brilliancy, and of an orange tint, alt. 60°.
		47	Calm	Aurora decreasing in brilliancy; nothing remaining except a bank of yellowish light from N.W. to N.E., alt. about 20°.
19	15	57	Calm	Aurora decreasing; faint light alone remaining.
	16	27	Calm	A few cirri and cirro-strati appearing in North horizon; light of the moon (which rose about 16h.) obscuring Eastern portion of auroral light, faint light remaining in N.W. and North.
		52	Calm	Light increasing and forming an arch from N.N.E. to N.N.W., alt. 15°; faint pulsations and waving motion in upper surface of arch.
		57	Calm	A bright patch of light in North, with streamers from its Western portion.
	17	7	Calm	Haze and cirri rising in North horizon; the Aurora nearly indistinct; no feature visible except a low bank of light with faint pulsations, but evidently in full operation, obscured only by the haze and cirri.
		32	Calm	Nothing remarkable except a faint bank of light in North.
		42	Calm	Light becoming fainter.
	18	0	Calm	Sky clear, faint Aurora in N.; light haze round the moon.
[e]21	18	0	Calm	Auroral light in the N.; lightning in N.W., near horizon.
		40		Light growing fainter.
		50		Diappearing rapidly.
	19	5		Scarcely visible, clouds rising in N.W.; sheet lightning in N.W., near horizon; distant thunder.
		40		Sky partially clouded in the North; light cirri. Auroral light appearing through the clouds in West and North.
	18 to 19	40	Calm	Constant lightning in N.W. Distant thunder during the latter part of the period.
	20	0	Calm	Three-quarters clouded, with light cirri and haze; faint light in North horizon.
	21	35	Calm	A low bank of strati in N. and N.W. horizon; haze round remainder of horizon; zenith clear.

August 19, 20, and 21, 1840.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
21	18	32	0[a]	48·9	128·5		38·0	
		37	0	48·8	128·6		39·3	
		42	0	47·2	129·0		39·7	
		47	0	48 8	132·7		41·1	
		52	0	50·8	134·4		42·8	
		57	0	52·3	136·3		44·2	
	19	2	0	55·1	137·5	75	45·6	75
		7	0	57·0	138·4		46·2	
		12	0	56·0	136·6		46·7	
		17	0	54·0	135·7		46·8	
		22	0	51·0	134·8		47·3	
		27	0	50·4	133·9		48·1	
		32	0	45·4	129·9		46·6	
		37	0	41·7	128·9		43·0	
		42	0	39·1	127·3		41·6	
	20	0	0	29·5	118·4	77	37·1	77
		37	0	45·9	138·7		41·8	
		42	0	47·4	139·2		42·8	
		47	0	46·1	139·0		44·0	
		52	0	46·9	142·0		45·1	
		57	0	47·5	139·1		46·3	
	21	2	0	49·1	138·2	77	46·4	77
		7	0	50·7	139·7		46·6	
		12	0	55·0	142·9		47·8	
		17	0	54·5	142·3		48·6	
		22	0	52·9	143·0		48·7	
		27	0	53·4	142·5		49·5	
	22	0	0	55·1	141·1	75	50·5	76
22	0	0	0	60·7	140·6	74	50·4	75

Mean Positions at the usual hours of observation, during the Month.[b]

0	0	0	55·7	149·4	69	49·0	69
2	0	0	57·6	142·0	69	49·0	69
4	0	0	45·9	140·1	70	49·0	69

August 19, 20, and 21, 1840.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
	6	0	0	39·1	142·1	70	50·1	70
	8	0	0	39·9	150·0	71	51·4	71
	10	0	0	44·4	152·2	72	52·8	71
	12	0	0	47·1	148·0	72	52·6	71
	14	0	0	54·1	148·5	72	52·1	72
	16	0	0	56·1	144·6	71	48·7	72
	18	0	0	49·6	141·6	71	45·2	70
	20	0	0	45·4	144·9	70	44·8	70
	22	0	0	51·0	147·0	69	47·0	70

St. Helena { The Magnetometers were removing from the temporary to the permanent Observatory.

August 28 and 29, 1840.

Toronto { Decl. 1 Scale Division = 0′·72
H. F. k = ·00022; q = ·00034
V. F. k = ·00016; q = ·0002

Regular, term, and extra observations.

The V. F. was observed at 2^m. 30^s. before, and the H. F. at 2^m. 30^s. after the times specified.

28	0	0	0	156·4	154·0	68	53·5	68
	2	0	0	161·2	145·1	67	52·8	68
	4	0	0	152·1	144·9	68	53·1	68
	6	0	0	144·9	145·9	69	53·4	69
	8	0	0	142·4	156·2	71	55·0	70
	10	0	0	146·7	163·5	72	57·7	72
		5	0	146·2				
		10	0	146·7	164·5		55·8	
		15	0	145·5				
		20	0	146·9	165·2		55·4	
		25	0	146·7				
		30	0	153·7	165·4		63·8	
		35	0	157·1				

August 28 and 29, 1840.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
28	10	40	0	165·0	154·0		61·3	
		45	0	177·0				
		50	0	177·0	158·6		59·2	
		55	0	172·0				
	11	0	0	166·5	153·6	73	56·2	73
		5	0	161·4				
		10	0	158·0	154·2		55·2	
		15	0	155·6				
		20	0	152·5	146·7		53·8	
		25	0	148·8				
		30	0	143·2	142·5		54·2	
		35	0	141·8				
		40	0	143·1	146·2		54·1	
		45	0	145·3				
		50	0	148·0	155·2		55·5	
		55	0	146·3				
	12	0	0[c]	144·6	146·0	73	55·0	72
		5	0	143·6				
		10	0	141·0	144·7		54·8	
		15	0	139·9				
		20	0	136·1	144·9		54·2	
		25	0	135·4				
		30	0	135·6	146·5		53·3	
		35	0	137·3				
		40	0	138·7	146·8		53·1	
		45	0	140·2				
		50	0	141·3	148·9		53·6	
		55	0	141·0				
	13	0	0	142·7	151·0	73	52·9	73
		5	0	142·1				
		10	0	141·9	153·1		53·5	
		15	0	144·6				
		20	0	141·7	145·8		52·3	
		25	0	139·0				
		30	0	141·1	158·1		52·7	
		35	0	144·7				

[a] The H. F. was observed at 2^m. after the times specified from 21^d. 18^h. 32^m. to 21^d. 21^h. 27^m.

[b] The mean positions are from August 17th to 31st inclusive.

d.	h.	m.	Wind.	
[c] 28	12	0	Calm	Six-eighths clouded, with light cirri and cirro-cumuli, clearing in N.W. and zenith.
	14	0	Calm	A few strati in East horizon, remainder clear. Bank of light in North horizon.
		25	Calm	Arch of light in North, extending from N.W. to N.E., alt. in centre about 60°.
		35	Calm	A number of concentric arches, with patches of light in different places.
		40	Calm	Arches breaking up, four or five streamers shooting up in N.W. to alt. of 40° or 50°.
		45	Calm	Light in North remaining; a number of streamers in North.
	15	30	Calm	Clouds rising in N.W., gradually obscuring the whole sky.
	16	0	Calm	Densely clouded.
	17	0	Calm	Densely clouded; air close and oppressive.
		30	Calm	Streamers proceeding from East to West across zenith; much obscured by cirrus; haze covering the whole sky.
		32	Calm	Pulsations of light, and streamers darting from the horizon on every side, and meeting in a circle about 5° in diameter in zenith; halo of auroral light, composed of waves and pulsations, proceeding from every quarter towards it; stars visible in the centre of the ring of light, but nowhere else; centre of circle about 10° S. W. of zenith.
		35		
		36	Calm	Bright gleam of light darting in wavy pulsations from East to West, across zenith. North and South portions of the sky densely clouded.
		40	Calm	Brilliant belt or streamer darting upwards in pulsations, and progressing from East to West faster than the eye could follow, smaller streamers from North and South entering it at right angles throughout its whole course.
		45	Calm	Clouded all over, except a bright patch of light in East, emitting faint streamers.

d.	h.	m.	Wind.	
28	17	50		Clearing in E. and S.E.; faint streamers. Large meteor (above first magnitude) fell from alt. 60° to 40°; brilliant tail, time of flight about 2^s.; direction from zenith to S.E.
		55	Calm	Clouds rising in N.W., and totally obscuring the sky.
	18	0	Calm	Densely clouded; auroral light almost entirely obscured.
		24		Sky almost clear; dark cumulous masses in N. and N.E. thrown into strong relief by auroral light, and pale flashes occurring at intervals; flashes and pulsations in N.W., extending upwards to zenith.;
		30		Clear; bright streamers from W. to N.E.; faint pulsations reaching nearly to zenith.
		42		A few strati in the North; streamers; bright patch in N.N.W.; flashes to zenith.
		52		Overcast to within 10° or 15° of North horizon; bright light and a few very faint streamers still visible.
	19	4		Overcast, cumuli and cumulous haze, except near horizon. No streamers or pulsations.
		26		Overcast, with broken cumulous masses; flashes visible in zenith only.
		35		Clear, except heavy bank of cumuli in North; brilliant and incessant flashes converging from all sides towards an oval space about 10° E. and W. of zenith.
		37		Sudden start of H. F. magnet.
		46		Nearly overcast; a few streamers to N.W., in clear intervals.
		51		Clouded, bright to Northward.
	20	3		Bright light in breaks of clouds.
		38		Clear, bright flashes and pulsations.
		56		Light bank of clouds in N. and W. horizons, alt. 10° or 15°; remainder clear; faint auroral light and low streamers in N.W.; none in any other part of the sky.
	21	31		Clouded along North horizon to alt. of 15° or 20°; very faint auroral light at edges only.

The general character of this Aurora, as far as could be judged by the casual observations above given, was the same as that of the 28th and 29th May; flashes or pulsations, extending to the zenith, formed in both cases the remarkable features. On both days, the magnets were considerably disturbed during the earlier part of the day.

August 28 and 29, 1840.																							
M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.		M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.		M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °	d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °	d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
28	13	40	0	148·3	155·3		54·4		28	18	15	0	189·8					28	21	0	0	158·6	129·9	73	41·1	73
		45	0	147·6							20	0	180·3	113·9		29·0				2	40	154·8				
		50	0	146·7	149·9		53·1				22	40	170·2							5	0	154·7	125·8		41·5	
		55	0	147·0							25	0	163·5	103·2		19·6				7	40	154·6				
	14	0	0	149·1	146·8	73	54·5	73			27	40	161·3							10	0	153·9	127·4		43·4	
		5	0	150·4							30	0	160·0	90·9						15	0	154·9				
		10	0	155·0	144·9		60·1				32	40	168·9							20	0	157·2	132·8		47·9	
		15	0	166·1							35	0	174·2	95·9		18·4				30	0	159·1	135·8		49·5	
		20	0	187·9	149·2		60·7				37	40	172·9							35	0	158·7				
		25	0	207·6							40	0	172·0	99·7						40	0	159·5	138·1		50·5	
		30	0	219·2	157·4		69·7				42	40	162·1			27·4				45	0	158·9				
		35	0	242·9							45	0	147·3	85·7		35·0				55	0	156·9	135·0		51·3	
		40	0	258·5	162·8		63·5				47	40	138·8							55	0	155·8				
		45	0	243·9							50	0	135·2	96·6		26·5			22	0	0	160·2	128·4	73	48·9	73
		50	0	223·1	150·7		46·0				52	40	137·5							5	0	161·1				
		55	0	227·4							55	0	144·2	83·4		30·8				10	0	155·9	123·7		48·9	
	15	0	0	207·0	142·0	73	41·6	73			57	40	152·0							15	0	155·6				
		5	0	199·6						19	0	0	149·7	74·9†	73	25·5	73			20	0	162·3	133·0		50·0	
		10	0	202·8	131·6		36·7				2	40	154·7							25	0	159·2				
		15	0	211·5							5	0	160·6	88·2†		31·1				30	0	156·7	134·9		52·1	
		20	0	205·4	148·2		36·3				7	40	167·3							35	0	154·7				
		25	0	203·0							10	0	170·6							40	0	155·9	130·8		49·3	
		30	0	199·6	157·6		34·6				12	40	171·8	92·1†						45	0	153·4				
		35	0	175·0							15	0	168·9	82·6		32·6				50	0	153·5	128·4		46·8	
		40	0	163·9	141·1		31·0				17	40	169·8							55	0	154·1				
		45	0	169·3							20	0	171·6	83·8					23	0	0	155·5	132·4	73	49·3	73
		50	0	183·4	140·0		38·2				22	40	170·5			32·5				5	0	157·7				
		55	0	180·7							25	0	168·0			36·4				10	0	156·5	132·9		47·8	
	16	0	0	183·8	143·7	73	36·3	73			30	0	162·3	79·5		37·4				15	0	159·4				
		5	0	174·0							32	40	165·3							20	0	160·6	134·1		48·5	
		10	0	171·0	131·8		33·3				35	0	157·0	82·1		32·2				25	0	165·7				
		15	0	163·2							37	40	150·2							30	0	164·6	137·0		48·9	
		20	0	151·6	136·1		28·6				40	0	153·5	115·4		36·5				35	0	158·9				
		25	0	152·0							42	40	167·0							40	0	159·3	131·7		46·8	
		30	0	162·4	121·0		34·5				45	0	167·5	159·1		44·1				45	0	162·4				
		35	0	163·9							47	40	194·3							50	0	162·6	135·8		48·3	
		40	0	155·2	116·4		27·9				50	0	194·5	173·0		47·6				55	0	166·0				
		45	0	151·8							52	40	180·4					29	0	0	0	165·8	136·1	73	48·2	73
		50	0	150·1	103·8		30·0				55	0	170·5	169·6		41·2				5	0	167·9				
		55	0	155·1							57	40	148·1							10	0	167·0	168·6		47·2	
	17	0	0	161·3	114·7	73	34·2	73		20	0	0	140·5	128·0	73	41·1	73			15	0	168·6				
		5	0	163·5							2	40	147·9							20	0	167·5	136·7		50·9	
		10	0	152·0	84·9		38·3				5	0	143·4	142·2		42·1				25	0	168·4				
		15	0	133·6	59·8†						7	40	137·8							30	0	169·3	136·1		54·0	
		20	0	114·6	91·3		35·2				10	0	145·1	131·0		34·3				35	0	171·7				
		25	0	136·1	97·3†		57·7‡				12	40	131·5							40	0	167·7	137·9		53·3	
		30	0	154·0	119·8		59·1				15	0	128·9			31·1				45	0	166·6				
		31	50	135·4							17	40	137·0							50	0	168·1	138·6		53·0	
		35	0	172·6	140·5†		59·4‡				20	0	132·5	109·0		32·9				55	0	169·8				
		37	40	162·9	160·5†						22	40	136·7						1	0	0	177·0	141·3	73	53·4	73
		40	0	181·2	222·8		49·3				25	0	140·8	100·0		33·6				5	0	165·5				
		42	40	187·9	180·5†		49·2‡				27	40	147·4							10	0	174·1	140·6		53·4	
		45	0	153·1			48·3‡				30	0	137·4	100·4		34·3				15	0	174·2				
		47	40	143·3	116·4†						32	40	154·3							20	0	175·9	141·0		53·3	
		50	0	171·6	134·8		35·8				35	0	149·3	106·9		37·0				25	0	173·7				
		52	40	193·1			44·9‡				37	40	155·7							30	0	171·9	141·0		53·5	
		55	0	180·5	124·3†		40·7‡				40	0	157·6	108·2		36·8				35	0	170·1				
		57	40	165·8							42	40	159·1							40	0	168·1	138·8		53·5	
	18	0	0	153·1	110·2	73	36·5	73			45	0	157·0	114·9		36·5				45	0	167·3				
		2	40	140·2	100·4†						47	40	163·4							50	0	168·9	137·7			
		5	0	136·4			35·3‡				50	0	161·4	120·7		38·6				55	0	168·9				
		7	40	165·7	123·4†						52	40	164·8						2	0	0	168·0	138·7	73	50·3	73
		10	0	184·1	124·3		45·6				55	0	164·4	127·8		39·7				5	0	165·3				
		12	40	190·7			46·6‡				57	40	157·0							10	0	166·3	145·3		50·7	

The H. F. observations marked † were taken respectively at the times 17^h. 19^m., 25^m. 50^s., 35^m. 30^s., 39^m. 30^s., 45^m. 30^s., 56^m., 18^h. 5^m., 9^m. 30^s., 19^h. 2^m. 51^s., 8^m., 13^m.; the others as usual, 2^m. 30^s. after the times specified.

The V. F. observations marked ‡ were taken at the times 17^h. 24^m. 30^s., 34^m., 40^m. 30^s., 44^m., 51^m., 56^m., 18^h. 3^m. 30^s., 11^m.; and the observations from 18^h. 25^m. to 21^h. 10^m. at the times specified; all others as usual, 2^m. 30^s. before the times specified.

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M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
29	2	15	0	167·2				
		20	0	164·5			51·5	
		25	0	163·5				
		30	0	161·2	135·9		51·5	
		25	0	159·7				
		40	0	159·9	134·2		48·2	
		45	0	159·1				
		50	0	157·0	133·6		48·6	
		55	0	156·1				
	3	0	0	155·3	133·1	73	48·4	73
		5	0	154·1				
		10	0	153·1	132·5		48·3	
		15	0	152·8				
		20	0	151·2	133·2		48·1	
		25	0	150·9				
		30	0	151·3	133·6		47·8	
		35	0	149·7				
		40	0	150·2	134·6		47·7	
		45	0	148·3				
		50	0	145·7	134·7		48·0	
		55	0	145·1				
	4	0	0	145·0	135·4	72	47·9	72
		5	0	143·9				
		10	0	143·9	135·3		47·5	
		15	0	143·7				
		20	0	143·0	136·5		48·2	
		25	0	142·8				
		30	0	141·6	137·2		48·7	
		35	0	141·1				
		40	0	141·9	137·4		48·7	
		45	0	141·4				
		50	0	140·0	139·7		48·7	
		55	0	139·0				
	5	0	0	138·4	138·6	72	48·7	73
		5	0	138·6				
		10	0	138·8	139·3		48·5	
		15	0	139·2				
		20	0	137·6	138·9		49·2	
		25	0	137·0				
		30	0	138·0	141·2		50·4	
		35	0	138·0				
		40	0	137·8	141·7		50·7	
		45	0	137·5				
		50	0	137·0	142·9		50·6	
		55	0	137·0				
	6	0	0	136·6	143·4	73	50·6	73
		5	0	136·3				
		10	0	136·8	144·7		50·9	
		15	0	137·1				
		20	0	137·1	144·8		51·3	
		25	0	137·4				
		30	0	136·3	146·1		51·4	
		35	0	137·1				
		40	0	137·0	147·0		51·8	
		45	0	137·2				
		50	0	137·2	142·4		51·5	
		55	0	137·6				
	7	0	0	137·2	142·1	73	51·6	73
		5	0	137·5				
		10	0	138·0	148·0		51·3	
		15	0	138·1				
		20	0	138·3	149·4		51·3	
		25	0	139·0				
		30	0	138·8	150·8		51·2	
		35	0	138·8				
		40	0	139·2	150·2		51·2	
		45	0	138·9				

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M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
29	7	50	0	139·0	150·7		51·2	
		55	0	139·1				
	8	0	0	139·5	150·4	73	51·2	73
		5	0	140·0				
		10	0	140·3	150·1		51·4	
		15	0	140·9				
		20	0	141·0	150·6		51·2	
		25	0	141·7				
		30	0	141·6	159·5		53·7	
		35	0	144·0				
		40	0	141·6	162·4		53·5	
		45	0	140·5				
		50	0	141·8	157·9		52·5	
		55	0	141·8				
	9	0	0	142·0	155·3	73	52·1	73
		5	0	142·2				
		10	0	142·0	161·4		52·0	
		15	0	142·2				
		20	0	143·7	149·1		51·9	
		25	0	143·7				
		30	0	143·9	147·7		50·7	
		35	0	143·8				
		40	0	144·0	153·2		51·1	
		45	0	143·9				
		50	0	143·7	150·7		50·9	
		55	0	143·9				
	10	0	0	144·0	151·1	73	50·8	73
	12	0	0	147·0	143·2	73	50·0	73
	14	0	0	145·8	147·0	72	50·5	72
	16	0	0	144·7	147·0	72	50·5	72

The Mean Positions at the usual hours of observation, are given in page 13.

St. Helena { Decl. 1 Scale Division = 0′·71
H. F. k = ·00019 ; q = ·0003

Regular and term observations.

The H. F. was observed at 2^m. 30^s. after the times specified.

28	0	0	0	67·0	222·4	61		
	2	0	0	67·1	222·0	62		
	4	0	0	67·0	216·0	62		
	6	0	0	66·1	214·6	61		
	8	0	0	67·0	212·0	60		
	10	0	0	67·1	207·5	60		
		5	0	66·8				
		10	0	66·6	207·7			
		15	0	66·3				
		20	0	66·6	210·5			
		25	0	66·8				
		30	0	66·6	213·2			
		35	0	66·7				
		40	0	66·7	214·3			
		45	0	66·1				
		50	0	66·7	213·4			
		55	0	66·8				
	11	0	0	67·0	211·4			
		5	0	67·2				
		10	0	67·3	211·4			
		15	0	67·3				
		20	0	67·3	209·1			
		25	0	67·1				
		30	0	67·0	209·1			
		35	0	66·9				
		40	0	67·2	209·2			
		45	0	67·7				

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M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
28	11	50	0	67·2	210·3			
		55	0	67·9				
	12	0	0	66·4	208·2	60		
		5	0	66·4				
		10	0	66·5	207·2			
		15	0	66·3				
		20	0	66·4	207·5			
		25	0	66·4				
		30	0	67·0	208·5			
		35	0	67·4				
		40	0	67·2	209·5			
		45	0	67·5				
		50	0	67·5	209·4			
		55	0	67·4				
	13	0	0	67·5	210·2			
		5	0	67·5				
		10	0	67·6	212·2			
		15	0	67·9				
		20	0	67·6	213·2			
		25	0	67·1				
		30	0	68·1	213·0			
		35	0	68·2				
		40	0	68·0	213·6			
		45	0	67·2				
		50	0	66·2	213·1			
		55	0	65·8				
	14	0	0	65·8	212·4	60		
		5	0	65·6				
		10	0	65·5	212·0			
		15	0	65·6				
		20	0	66·9	218·2			
		25	0	66·9				
		30	0	66·9	220·2			
		35	0	66·9				
		40	0	67·9	223·8			
		45	0	67·9				
		50	0	67·5	222·7			
		55	0	67·9				
	15	0	0	68·1	222·0			
		5	0	67·4				
		10	0	67·3	221·3			
		15	0	66·3				
		20	0	66·2	219·7			
		25	0	66·1				
		30	0	66·1	218·9			
		35	0	66·2				
		40	0	65·6	216·2			
		45	0	65·0				
		50	0	65·3	212·5			
		55	0	65·2				
	16	0	0	65·5	211·2	59		
		5	0	65·0				
		10	0	65·3	212·9			
		15	0	65·2				
		20	0	64·0	209·5			
		25	0	64·0				
		30	0	64·2	209·0			
		35	0	65·1				
		40	0	64·8	207·5			
		45	0	65·0				
		50	0	65·2	206·9			
		55	0	65·4				
	17	0	0	65·2	206·5			
		5	0	65·8				
		10	0	65·9	204·0			
		15	0	66·8				
		20	0	67·0	201·9			

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M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
28	17	25	0	67·0				
		30	0	67·9	204·1			
		35	0	66·0				
		40	0	69·1	207·8			
		45	0	69·5				
		50	0	69·4	207·9			
		55	0	69·0				
	18	0	0	68·0	209·0	59		
		5	0	68·0				
		10	0	68·0	208·9			
		15	0	68·1				
		20	0	68·2	208·8			
		25	0	68·5				
		30	0	68·5	209·2			
		35	0	68·9				
		40	0	68·4	208·9			
		45	0	69·0				
		50	0	69·1	208·7			
		55	0	70·0				
	19	0	0	71·2	208·8			
		5	0	72·5				
		10	0	73·3	207·0			
		15	0	73·8				
		20	0	74·1	205·0			
		25	0	74·4				
		30	0	75·4	201·3			
		45	0	75·7				
		50	0	76·0	201·5			
		55	0	75·1				
	20	0	0	76·9	199·0	59		
		5	0	77·1				
		10	0	67·5	218·7			
		15	0	76·9				
		20	0	76·5	200·0			
		25	0	75·5				
		30	0	74·2	201·3			
		35	0	73·0				
		40	0	72·5	202·9			
		45	0	72·2				
		50	0	71·9	202·8			
		55	0	71·9				
	21	0	0	71·4	201·8			
		5	0	70·9				
		10	0	70·6	200·9			
		15	0	70·2				
		20	0	69·9	201·0			
		25	0	69·2				
		30	0	69·0	201·1			
		35	0	69·1				
		40	0	67·8	201·6			
		45	0	68 4				
		50	0	68·2	202·1			
		55	0	67·0				
	22	0	0	67·2	204·0	58		
		5	0	67·2				
		10	0	67·8	205·4			
		15	0	67·9				
		20	0	67·2	206·0			
		25	0	66·3				
		30	0	66·5	206·5			
		35	0	66·1				
		40	0	66·1	206·8			
		45	0	65·6				
		50	0	65·2	207·0			
		55	0	65·1				
	23	0	0	65·4	207·9			
		5	0	65·0				

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M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
28	23	10	0	65·0	209·0			
		15	0	64·8				
		20	0	64·8	211·0			
		25	0	64·2				
		30	0	63·0	208·5			
		35	0	62·2				
		40	0	62·2	209·2			
		45	0	62·1				
		50	0	62·0	209·0			
		55	0	62·0				
29	0	0	0	62·0	209·0	60		
		5	0	62·0				
		10	0	61·9	210·0			
		15	0	61·5				
		20	0	61·2	210·9			
		25	0	61·1				
		30	0	61·0	210·1			
		35	0	60·9				
		40	0	60·9	210·9			
		45	0	60·9				
		50	0	60·5	210·9			
		55	0	60·8				
	1	5	0	60·9				
		10	0	60·9	212·0			
		15	0	60·9				
		20	0	61·0	212·0			
		25	0	60·5				
		30	0	60·4	210·8			
		35	0	60·2				
		40	0	60·0	211·0			
		45	0	60·0				
		50	0	60·0	211·0			
		55	0	60·1				
	2	0	0	60·1	210·8	62		
		5	0	60·1				
		10	0	60·2	211·2			
		15	0	60·3				
		20	0	60·3	211·0			
		25	0	60·3				
		30	0	60·3	210·0			
		35	0	60·3				
		40	0	60·4	209·5			
		45	0	60·5				
		50	0	60·4	208·0			
		55	0	60·3				
	3	0	0	60·5	207·8			
		5	0	60·5				
		10	0	60·3	207·0			
		15	0	60·6				
		20	0	60·5	207·0			
		25	0	60·9				
		30	0	60·9	207·8			
		35	0	60·9				
		40	0	61·0	207·5			
		45	0	61·0				
		50	0	61·0	207·0			
		55	0	61·1				
	4	0	0	61·5	207·7	63		
		5	0	61·8				
		10	0	61·9	206·2			
		15	0	62·0				
		20	0	62·2	206·2			
		25	0	62·6				
		30	0	62·9	206·3			
		35	0	62·9				
		40	0	63·0	206·8			
		45	0	63·0				

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M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
29	4	50	0	62·9	206·0			
		55	0	62·9				
	5	0	0	62·9	206·2			
		5	0	62·9				
		10	0	62·9	206·5			
		15	0	62·9				
		20	0	62·9	206·2			
		25	0	62·9				
		30	0	62·9	206·5			
		35	0	63·0				
		40	0	63·0	206·3			
		45	0	63·0				
		50	0	63·0	206·0			
		55	0	63·0				
	6	0	0	63·0	206·0	62		
		5	0	63·1				
		10	0	63·1	206·2			
		15	0	63·2				
		20	0	63·8	206·2			
		25	0	63·8				
		30	0	64·0	206·2			
		35	0	64·4				
		40	0	64·8	206·7			
		45	0	65·0				
		50	0	65·2	207·0			
		55	0	65·3				
	7	0	0	65·6	206·9			
		5	0	65·7				
		10	0	65·8	206·9			
		15	0	65·8				
		20	0	65·8	207·0			
		25	0	65·7				
		30	0	65·7	207·0			
		35	0	65·7				
		40	0	65·9	207·0			
		45	0	65·9				
		50	0	65·9	206·9			
		55	0	65·8				
	8	0	0	65·9	207·4	61		
		5	0	65·8				
		10	0	65·9	206·9			
		15	0	65·7				
		20	0	65·5	207·1			
		25	0	65·5				
		30	0	65·6	209·1			
		35	0	66·4				
		40	0	67·4	211·0			
		45	0	66·5				
		50	0	66·5	211·6			
		55	0	66·6				
	9	0	0	66·5	211·0			
		5	0	66·5				
		10	0	66·4	210·4			
		15	0	66·0				
		20	0	65·9	209·6			
		25	0	65·8				
		30	0	66·0	210·0			
		35	0	66·0				
		40	0	65·9	210·0			
		45	0	65·9				
		50	0	65·9	210·0			
		55	0	66·1				
	10	0	0	66·0	209·8	60		
	12	0	0	66·1	207·4	60		

The magnetometers were not in adjustment during a sufficient number of consecutive days in this month to give mean positions.

August 28 and 29, 1840.

Antarctic Expedition at Hobarton.

Decl. 1 Scale Division = 0′·73
H. F. k = ·000176; q =
V. F. k = ; q =

The three Instruments were observed simultaneously.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
28	0	0	0	45·5	67·3	49	46·7	50
	1	0	0	45·9	66·4		46·0	
	2	0	0	46·4	71·7	49	46·5	51
	3	0	0	44·1	68·1		47·1	
	4	0	0	46·2	67·5	48	50·9	48
	5	0	0	45·2	68·3		53·7	
	6	0	0	45·2	69·4	47	51·8	48
	7	0	0	45·0	69·8		51·6	
	8	0	0	49·7	73·8	47	51·8	48
	9	0	0	47·1	72·0		51·8	
	10	0	0	47·4	67·6	47	52·5	48
		2	30	47·5	67·5		50·9	
		5	0	47·9	67·7		50·2	
		7	30	47·5	67·7		54·3	
		10	0	47·5	66·7		54·0	
		12	30	46·7	66·4		48·1	
		15	0	46·3	67·5		46·9	
		17	30	47·1	67·8		46·0	
		20	0	47·3	67·8		47·5	
		22	30	46·7	66·7		44·4	
		25	0	45·4	65·1		43·3	
		27	30	46·8	66·6		42·6	
		30	0	46·6	65·6		42·1	
		32	30	45·5	64·7		42·6	
		35	0	44·5	65·4		41·4	
		37	30	44·9	65·8		40·6	
		40	0	43·1	64·6		39·4	
		42	30	45·7	64·1		39·2	
		45	0	43·9	65·1		38·5	
		47	30	44·1	65·0		38·3	
		50	0	44·5	64·8		38·6	
		52	30	44·5	64·4		37·9	
		55	0	44·6	65·9		37·9	
		57	30	44·5	65·9		37·4	
	11	0	0	44·6	66·2		38·0	
		2	30	44·6	66·4		37·0	
		5	0	44·5	66·4		36·7	
		7	30	44·9	66·7		35·1	
		10	0	44·6	66·4		34·7	
		12	30	45·2	65·4	51	34·5	57
		15	0	42·9	64·4		34·0	
		17	30	45·8	67·6		34·6	
		20	0	44·8	65·6		34·3	
		22	30	46·3	67·4		34·0	
		25	0	46·3	68·7		33·7	
		27	30	46·5	67·9		33·4	
		30	0	47·0	66·9		33·4	
		32	30	47·3	66·5		32·7	
		35	0	47·6	66·1		33·1	
		37	30	44·8	65·9		32·8	
		40	0	45·9	65·8		32·7	
		42	30	43·7	65·6		32·1	
		45	0	45·7	66·1		31·8	
		47	30	44·7	63·1		31·8	
		50	0	45·4	65·1		31·7	
		52	30	46·9	66·1		32·5	
		55	0	47·5	67·1		31·9	
		57	30	48·2	67·4		31·8	
	12	0	0	48·5	68·4	50	31·3	50
		2	30	48·4	67·8		31·5	

August 28 and 29, 1840.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
28	12	5	0	47·7	67·4		31·4	
		7	30	47·6	67·0		30·7	
		10	0	46·9	67·9		31·2	
		12	30	47·2	67·3		30·9	
		15	0	46·9	68·6		30·5	
		17	30	46·5	67·6		30·3	
		20	0	45·8	66·7		29·6	
		22	30	45·3	66·8		29·3	
		25	0	44·0	66·6		29·2	
		27	30	44·3	66·8		29·4	
		30	0	43·6	66·8		29·8	
		32	30	43·2	66·4		30·7	
		35	0	42·9	66·6		29·9	
		37	30	43·3	67·9		28·8	
		40	0	43·2	66·5		29·5	
		42	30	42·9	66·5		29·0	
		45	0	42·0	66·5		29·1	
		47	30	42·6	66·6		28·9	
		50	0	42·1	66·9		29·1	
		52	30	41·9	65·9		28·4	
		55	0	43·3	67·2		28·7	
		57	30	42·8	66·6		28·7	
	13	0	0	42·3	65·9	50	27·5	60
		2	30	42·2	66·8		27·7	
		5	0	41·9	66·6		27·6	
		7	30	42·3	66·9		27·2	
		10	0	41·4	67·0		26·5	
		12	30	40·9	66·1		25·8	
		15	0	47·2	69·1		29·7	
		17	30	43·4	66·7		28·5	
		20	0	43·8	66·7		29·5	
		22	30	45·8	66·9		30·6	
		25	0	45·7	67·8		31·4	
		27	30	42·7	66·5		30·4	
		30	0	40·2	64·8		27·4	
		32	30	41·0	66·0		28·7	
		35	0	41·6	67·4		29·8	
		37	30	43·1	68·3		29·7	
		40	0	45·3	67·1		29·0	
		42	30	46·5	66·1		29·5	
		45	0	47·0	64·9		29·8	
		47	30	47·9	64·5		30·8	
		50	0	47·8	64·1		31·2	
		52	30	47·8	63·3		31·7	
		55	0	47·1	62·8		31·5	
		57	30	47·2	62·1		32·1	
	14	0	0	46·5	60·7	51	32·7	50
		2	30	46·8	59·6		33·0	
		5	0	46·5	58·7		34·3	
		7	30	45·8	57·6		34·5	
		10	0	46·6	59·1		35·8	
		12	30	45·9	56·8		34·0	
		15	0	44·8	54·3		35·1	
		17	30	43·7	52·1		35·1	
		20	0	45·4	51·6		36·7	
		22	30	46·2	51·1		37·3	
		25	0	46·5	51·6		39·5	
		27	30	47·2	50·3		41·8	
		30	0	47·5	50·2		42·3	
		32	30	47·9	50·1		42·9	
		35	0	47·5	47·3		43·1	
		37	30	47·1	45·5		43·8	
		40	0	47·4	43·9		44·0	
		42	30	47·3	43·2		45·1	
		45	0	47·0	41·3		45·7	
		47	30	47·0	39·3		46·8	
		50	0	47·8	36·6		48·7	

August 28 and 29, 1840.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
28	14	52	30	49·3	37·1		53·5	
		55	0	48·7	38·7		51·5	
		57	30	48·8	38·8		51·8	
	15	0	0	49·4	38·0	51	52·0	61
		2	30	49·9	37·3		52·7	
		5	0	49·2	38·1		53·0	
		7	30	49·1	37·3		53·2	
		10	0	48·6	35·2		51·7	
		12	30	49·4	31·5		51·4	
		15	0	48·7	31·0		51·5	
		17	30	48·9	31·9		52·3	
		20	0	49·4	31·1		52·3	
		22	30	49·7	31·5		52·4	
		25	0	49·9	32·7		52·1	
		27	30	49·2	33·1		51·1	
		30	0	50·1	34·4		51·1	
		32	30	49·3	33·3		52·5	
		35	0	50·5	33·4		49·9	
		37	30	50·7	32·3		50·0	
		40	0	50·2	28·9		49·4	
		42	30	50·2	29·9		50·0	
		45	0	50·2	31·1		50·3	
		47	30	53·3	34·6		50·1	
		50	0	50·8	36·2		51·5	
		52	30	49·6	34·1		48·0	
		55	0	51·5	34·7		47·7	
		57	30	50·2	34·1		46·2	
	16	0	0	50·1	34·1	54	46·0	64
		2	30	51·9	34·4		45·8	
		5	0	52·2	36·1		45·6	
		7	30	53·3	36·9		44·1	
		10	0	54·1	39·7		43·8	
		12	30	56·4	38·4		43·1	
		15	0	57·7	35·4		42·9	
		17	30	57·5	33·2		41·6	
		20	0	56·2	33·7		41·6	
		22	30	57·4	36·1		42·0	
		25	0	59·3	39·2		42·3	
		27	30	59·9	39·9		42·0	
		30	0	62·3	40·8		42·0	
		32	30	62·1	41·5		41·6	
		35	0	61·8	39·8		40·0	
		37	30	61·2	40·3		40·0	
		40	0	61·4	40·3		39·8	
		42	30	62·9	41·1		39·8	
		45	0	63·5	40·7		39·6	
		47	30	62·9	38·2		39·4	
		50	0	63·3	38·2		39·5	
		52	30	63·2	37·3		39·8	
		55	0	62·9	37·3		40·4	
		57	30	61·3	36·1		40·1	
	17	0	0	59·6	37·4	57	39·9	65
		2	30	60·5	38·9		40·4	
		5	0	62·1	39·9		40·1	
		7	30	62·5	40·4		40·1	
		10	0	63·3	40·8		40·3	
		12	30	64·2	42·5		40·3	
		15	0	65·9	45·4		40·3	
		17	30	65·9	44·4		38·9	
		20	0	65·8	44·7		37·9	
		22	30	67·1	45·4		38·4	
		25	0	67·1	47·2		38·0	
		27	30	68·8	45·4		37·7	
		30	0	68·1	42·5		37·9	
		32	30	66·7	38·2		38·5	
		35	0	64·8	41·5		38·6	
		37	30	72·3	43·1		43·3	

August 28 and 29, 1840.																							
M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.		M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.		M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °	d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °	d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
28	17	40	0	68·4	36·4		42·1		28	20	27	30	53·7	40·1		58·0		28	23	15	0	46·2	50·6		41·3	
		42	30	64·7	36·5		41·8				30	0	50·3	41·0		58·5				17	30	46·0	52·1		41·5	
		45	0	65·4	37·4		42·4				32	30	51·4	43·5		58·3				20	0	46·5	52·2		41·7	
		47	30	65·6	36·2		44·1				35	0	55·4	44·8		58·5				22	30	46·6	52·3		41·7	
		50	0	64·1	37·6		44·1				37	30	56·3	44·5		58·4				25	0	48·4	50·9		41·7	
		52	30	65·1	32·1		46·2				40	0	57·0	44·3		58·4				27	30	46·8	48·4		41·4	
		55	0	61·5	26·3		46·8				42	30	58·1	44·4		57·5				30	0	45·4	47·8		41·5	
		57	30	55·9	26·4		47·3				45	0	58·7	43·8		55·2				32	30	43·6	48·3		41·7	
	18	0	0	54·7	27·8	58	48·3	66			47	30	58·1	43·4		59·2				35	0	42·8	49·3		42·0	
		2	30	53·4	29·1		49·1				50	0	58·2	44·2		59·2				37	30	42·6	50·3		42·3	
		5	0	50·8	32·3		48·3				52	30	59·1	44·0		59·0				40	0	43·6	51·1		42·4	
		7	30	51·1	36·5		47·7				55	0	56·8	43·7		58·1				42	30	44·2	51·2		42·3	
		10	0	52·3	38·6		47·5				57	30	57·8	45·3		53·0				45	0	45·1	51·3		42·4	
		12	30	53·2	40·1		46·4			21	0	0	57·6	44·7	53	51·9	60			47	30	45·3	50·7		41·9	
		15	0	56·3	44·4		45·9				2	30	56·7	44·7		53·2				50	0	45·2	50·1		41·9	
		17	30	69·2	45·9		45·7				5	0	57·4	44·8		52·9				52	30	45·4	49·8		42·0	
		20	0	61·5	45·1		44·7				7	30	55·6	44·4		54·2				55	0	45·2	49·0		41·8	
		22	30	62·2	42·5		43·8				10	0	54·4	45·2		49·0				57	30	44·9	48·5		41·7	
		25	0	60·7	41·0		43·3				12	30	54·1	46·6		46·6		29	0	0	0	43·9	48·5	51	41·9	57
		27	30	59·0	40·9		43·1				15	0	54·6	47·4		48·2				2	30	45·3	48·6		42·0	
		30	0	59·6	44·4		44·1				17	30	55·0	47·7		47·7				5	0	46·3	49·1		42·5	
		32	30	61·5	46·9		44·1				20	0	55·0	48·1		47·0				7	30	47·4	49·3		43·9	
		35	0	62·9	46·1		44·8				22	30	55·1	48·2		46·7				10	0	48·0	49·1		44·5	
		37	30	60·9	44·8		44·0				25	0	55·5	47·6		46·5				12	30	48·2	48·9		45·5	
		40	0	60·3	46·6		43·8				27	30	54·9	46·9		46·3				15	0	48·5	49·3		45·5	
		42	30	63·2	48·7		44·8				30	0	54·1	46·7		45·7				17	30	48·8	49·9		45·5	
		45	0	66·3	49·1		45·1				32	30	53·3	46·8		45·5				20	0	49·1	50·8		45·7	
		47	30	68·1	47·2		45·7				35	0	53·6	47·3		45·8				22	30	48·8	51·4		45·9	
		50	0	68·9	44·1		46·7				37	30	53·2	47·6		45·1				25	0	48·8	51·8		45·4	
		52	30	64·1	41 2		46·4				40	0	52·4	47·2		44·4				27	30	48·3	51·8		44·2	
		55	0	61·2	42·0		46·4				42	30	52·0	47·6		43·8				30	0	48·1	52·3		44·0	
		57	30	60·9	43·3		47·0				45	0	52·1	47·4		43·4				32	30	47·8	52·4		43·9	
	19	0	0	67·8	45·4	57	48·0	63			47	30	51·9	47·8		43·1				35	0	47·8	51·4		44·2	
		2	30	63·6	46·2		48·3				50	0	51·9	48·3		42·5				37	30	47·1	50·5		44·1	
		5	0	62·9	46·2		47·9				52	30	51·8	48·7		42·3				40	0	45·9	49·8		43·8	
		7	30	63·1	47·0		47·9				55	0	51·4	48·5		40·9				42	30	45·9	49·9		43·8	
		10	0	65·4	47·3		48·5				57	30	51·3	48·4		40·6				45	0	46·2	49·7		44·5	
		12	30	66·5	47·3		49·2			22	0	0	51·1	48·4	52	40·8	59			47	30	45·9	50·1		44·5	
		15	0	67·9	45·5		54·1				2	30	50·3	48·1		41·3				50	0	45·5	50·2		44·4	
		17	30	66·5	43·2		52·5				5	0	49·6	47·7		41·0				52	30	46·5	51·1		44·4	
		20	0	65·1	42·0		52·9				7	30	50·4	47·7		40·4				55	0	47·4	51·3		44·3	
		22	30	62·8	41·1		53·1				10	0	50·8	47·1		40·8				57	30	47·3	52·3		44·4	
		25	0	61·5	39·6		52·9				12	30	50·6	46·4		41·5			1	0	0	46·8	52·8	50	44·2	55
		27	30	56·7	38·9		54·2				15	0	50·3	45·4		42·7				2	30	46·9	53·9		44·2	
		30	0	54·6	41·2		53·0				17	30	49·4	45·4		43·1				5	0	47·6	54·5		44·0	
		32	30	55·6	43·7		52·9				20	0	49·2	45·6		43·4				7	30	48·5	54·4		43·7	
		35	0	56·8	45·6		53·2				22	30	48·8	44·1		43·7				10	0	48·5	54·7		43·3	
		37	30	57·5	44·7		52·5				25	0	47·8	43·3		43·4				12	30	48·5	54·8		43·2	
		40	0	57·6	45·2		53·0				27	30	46·6	42·3		43·2				15	0	48·5	54·8		43·8	
		42	30	55·9	44·8		52·5				30	0	44·5	41·8		44·2				17	30	48·7	55·2		42·1	
		45	0	55·5	45·6		52·3				32	30	42·8	42·7		44·3				20	0	48·6	54·7		43·0	
		47	30	55·3	50·3		52·3				35	0	42·5	43·6		44·0				22	30	48·7	54·3		42·6	
		50	0	59·5	52·2		53·0				37	30	41·3	43·9		44·1				25	0	48·6	54·5		43·1	
		52	30	61·2	52·2		52·9				40	0	38·8	44·8		42·6				27	30	48·9	54·2		42·3	
		55	0	66·0	53·6		53·3				42	30	38·7	46·4		42·3				30	0	49·1	54·5		42·1	
		57	30	71·5	42·0		52·6				45	0	39·3	47·7		42·1				32	30	49·6	55·1		42·5	
	20	0	0	67·3	37·7	56	59·4	61			47	30	39·9	49·8		41·0				35	0	49·7	55·3		42·4	
		2	30	65·8	35·2		57·0				50	0	40·7	50·0		40·9				37	30	50·1	55·5		42·6	
		5	0	60·1	32·1		58·0				52	30	40·7	51·4		39·8				40	0	50·0	55·7		41·4	
		7	30	54·8	34·2		58·7				55	0	43·7	52·7		39·1				42	30	50·1	56·1		41·1	
		10	0	54·3	36·9		57·8				57	30	44·3	52·8		39·9				45	0	50·0	55·5		41·2	
		12	30	56·1	38·0		58·6			23	0	0	45·4	52·4	51	40·0	59			47	30	50·1	55·8		40·7	
		15	0	55·0	35·5		58·9				2	30	46·6	52·5		40·0				50	0	50·0	56·4		40·4	
		17	30	50·3	35·5		58·1				5	0	48·5	51·8		40·7				52	30	50·1	56·3		40·5	
		20	0	50·0	37·3		58·0				7	30	48·8	50·4		41·3				55	0	50·1	56·4		40·4	
		22	30	51·7	39·2		58·4				10	0	47·8	49·6		41·3				57	30	50·1	55·6		40·5	
		25	0	54·0	40·2		58·7				12	30	46·8	49·4		41·2			2	0	0	50·1	55·4	50	40·7	55

August 28 and 29, 1840.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
29	2	2	30	50·1	55·8		40·4	
		5	0	49·6	56·5		40·3	
		7	30	49·6	57·3		40·6	
		10	0	49·9	57·1		40·8	
		12	30	50·1	56·7		41·4	
		15	0	50·1	57·1		41·1	
		17	30	50·2	56·7		41·6	
		20	0	50·0	56·6		41·4	
		22	30	49·6	56·6		42·2	
		25	0	49·8	56·7		42·2	
		27	30	50·1	56·9		42·2	
		30	0	50·2	56·4		42·2	
		32	30	50·1	56·8		42·5	
		35	0	50·1	57·0		42·3	
		37	30	50·5	57·2		42·3	
		40	0	50·5	56·8		42·1	
		42	30	50·6	56·7		42·3	
		45	0	50·6	56·1		42·4	
		47	30	50·6	56·2		42·4	
		50	0	50·5	56·8		42·3	
		52	30	50·6	56·9		42·2	
		55	0	50·4	56·8		42·2	
		57	30	50·6	57·3		43·0	
	3	0	0	50·6	57·5	50	42·7	54
		2	30	50·7	57·4		43·0	
		5	0	50·6	57·3		43·7	
		7	30	50·6	57·1		43·7	
		10	0	50·6	57·3		43·3	
		12	30	50·6	57·6		43·3	
		15	0	50·7	57·5		43·1	
		17	30	50·8	57·7		43·7	
		20	0	51·3	58·1		43·8	
		22	30	51·7	58·1		43·7	
		25	0	51·5	58·0		43·5	
		27	30	51·5	58·2		43·5	
		30	0	51·6	58·8		43·4	
		32	30	51·7	59·1		43·6	
		35	0	51·7	59·1		43·6	
		37	30	51·6	59·0		44·1	
		40	0	51·7	58·8		43·9	
		42	30	51·6	58·5		43·8	
		45	0	51·5	58·6		43·7	
		47	30	51·4	58·7		43·6	
		50	0	51·3	58·7		43·2	
		52	30	51·4	58·8		43·4	
		55	0	51·3	59·1		43·4	
		57	30	51·6	59·3		43·1	
4	0	0	0	51·0	59·3	50	43·1	54
		2	30	51·6	59·2		43·2	
		5	0	51·9	59·1		43·6	
		7	30	52·3	59·1		43·9	
		10	0	52·4	59·1		43·9	
		12	30	52·4	58·8		43·9	
		15	0	52·1	59·2		44·1	
		17	30	52·1	59·0		44·4	
		20	0	52·1	59·2		43·5	
		22	30	52·1	59·4		43·3	
		25	0	52·1	59·5		43·2	
		27	30	52·1	59·4		43·7	
		30	0	52·4	59·5		44·1	
		32	30	52·5	59·6		44·2	
		35	0	52·6	59·5		43·9	
		37	30	52·6	59·6		44·0	
		40	0	52·6	59·3		43·9	
		42	30	52·5	59·3		43·8	
		45	0	52·5	59·2		43·4	
		47	30	52·5	59·5		43·4	

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M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
29	4	50	0	52·6	59·5		42·9	
		52	30	52·6	59·5		43·0	
		55	0	52·6	59·5		43·3	
		57	30	52·5	59·3		44·4	
	5	0	0	52·6	59·4	50	44·2	54
		2	30	52·5	59·5		44·0	
		5	0	52·5	59·6		44·3	
		7	30	52·9	59·7		44·3	
		10	0	52·8	59·6		44·2	
		12	30	52·8	59·8		44·2	
		15	0	52·9	59·8		44·3	
		17	30	53·0	59·9		44·1	
		20	0	53·1	60·0		44·2	
		22	30	53·0	59·6		44·0	
		25	0	53·0	59·5		43·7	
		27	30	53·0	59·6		43·7	
		30	0	53·0	59·5		43·8	
		32	30	53·0	59·5		43·9	
		35	0	53·1	59·6		43·9	
		37	30	53·0	59·6		44·2	
		40	0	53·1	59·6		44·0	
		42	30	53·0	59·6		43·8	
		45	0	53·0	59·6		43·8	
		47	30	53·1	59·5		44·0	
		50	0	53·1	59·6		44·1	
		52	30	53·1	59·6		44·4	
		55	0	53·1	59·6		44·4	
		57	30	53·1	59·6		44·8	
	6	0	0	53·1	59·7	50	44·9	54
		2	30	53·1	59·8		44·9	
		5	0	53·1	59·8		45·1	
		7	30	53·1	59·9		45·1	
		10	0	53·2	60·0		45·1	
		12	30	53·7	60·2		45·1	
		15	0	53·5	60·1		45·2	
		17	30	53·5	60·2		45·2	
		20	0	53·5	60·3		45·2	
		22	30	53·5	60·3		44·9	
		25	0	53·9	60·4		44·9	
		27	30	53·5	60·3		44·6	
		30	0	53·1	60·2		44·6	
		32	30	52·9	60·3		44·6	
		35	0	52·5	60·3		44·6	
		37	30	52·6	60·7		44·7	
		40	0	52·9	60·9		44·9	
		42	30	52·8	60·5		44·6	
		45	0	52·6	60·9		44·6	
		47	30	52·6	60·9		44·8	
		50	0	52·5	60·9		44·8	
		52	30	52·5	60·9		44·9	
		55	0	52·5	61·1		44·8	
		57	30	52·5	60·1		45·2	
	7	0	0	52·4	60·8	50	45·2	53
		2	30	52·1	60·6		45·1	
		5	0	52·1	60·5		45·3	
		7	20	52·3	60·3		45·1	
		10	0	52·4	60·3		44·8	
		12	30	52·2	60·5		44·9	
		15	0	52·3	60·8		45·1	
		17	30	52·5	60·8		45·1	
		20	0	52·6	60·9		45·1	
		22	30	52·6	60·9		45·4	
		25	0	52·5	61·1		45·7	
		27	30	52·4	61·2		45·7	
		30	0	52·4	61·3		45·7	
		32	30	52·3	60·9		45·7	
		35	0	52·4	61·1		45·8	

August 28 and 29, 1840.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
29	7	37	30	52·5	61·1		45·9	
		40	0	52·2	61·1		45·9	
		42	30	52·1	60·9		45·9	
		45	0	52·1	61·1		46·0	
		47	30	52·2	60·8		45·8	
		50	0	52·1	60·8		45·9	
		52	30	52·1	61·1		46·3	
		55	0	52·1	61·1		46·3	
		57	30	52·1	61·3		46·3	
	8	0	0	52·1	61·3	49	46·2	53
		2	30	51·9	61·3		46·1	
		5	0	52·0	61·7		45·9	
		7	30	52·1	61·8		45·8	
		10	0	52·0	61·4		45·5	
		12	30	52·0	61·5		45·4	
		15	0	52·2	61·6		45·6	
		17	30	52·1	61·5		45·4	
		20	0	52·1	61·6		45·5	
		22	30	52·2	61·8		45·8	
		25	0	52·2	61·7		45·9	
		27	30	52·0	62·0		46·0	
		30	0	51·1	63·7		45·9	
		32	30	53·2	64·9		45·8	
		35	0	54·8	64·9		45·8	
		37	30	53·5	65·3		45·6	
		40	0	53·5	65·8		44·0	
		42	30	52·5	64·7		43·1	
		45	0	51·3	65·3		42·8	
		47	30	52·5	66·0		42·4	
		50	0	52·1	66·2		42·3	
		52	30	51·4	66·2		41·8	
		55	0	52·2	66·2		41·4	
		57	30	51·9	66·1		41·4	
	9	0	0	51·6	65·4	49	40·8	54
		2	30	51·6	65·8		40·8	
		5	0	51·8	65·9		41·0	
		7	30	51·6	65·2		41·1	
		10	0	51·5	65·0		41·1	
		12	30	51·7	64·5		41·2	
		15	0	51·5	65·5		41·5	
		17	30	51·9	65·4		41·5	
		20	0	51·9	65·2		41·5	
		22	30	51·8	65·1		41·5	
		25	0	52·7	64·8		42·0	
		37	30	52·3	64·7		42·0	
		30	0	51·3	64·5		42·1	
		32	30	52·9	64·8		42·6	
		35	0	50·9	64·9		43·0	
		37	30	57·3	64·9		43·0	
		40	0	51·7	65·3		43·0	
		42	30	51·6	64·5		43·0	
		45	0	51·4	64·9		43·0	
		47	30	50·7	64·9		43·1	
		50	0	50·1	65·2		43·1	
		52	30	51·4	65·1		43·2	
		55	0	50·6	64·8		43·2	
		57	30	51·0	65·3		43·2	
	10	0	0	50·5	64·8	48	43·2	53
	11	0	0	48·5	64·8		50·3	

Mean Positions at the usual hours of observation, during the month of September.

0	0	0	45·4	61·3	52	52·5	53
1	0	0	45·0	60·6		53·7	
2	0	0	46·7	62·4	51	54·3	52
3	0	0	47·2	63·4		54·2	

August 28 and 29, 1840.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
	4	0	0	46·0	64·0	49	54·4	50
	5	0	0	48·2	64·3		55·9	
	6	0	0	50·0	65·3	49	55·2	49
	7	0	0	48·9	65·9		56·4	
	8	0	0	50·0	66·0	48	56·8	49
	9	0	0	48·6	66·4		56·5	
	10	0	0	46·6	66·1	48	56·5	48
	11	0	0	44·6	64·7		56·4	
	12	0	0	42·1	64·4	48	55·4	49
	13	0	0	44·7	61·0		56·0	
	14	0	0	47·7	57·8	51	54·8	52
	15	0	0	50·6	55·5		52·3	
	16	0	0	54·1	53·9	56	49·8	56
	17	0	0	56·3	54·2		46·8	
	18	0	0	56·7	53·2	59	47·3	58
	19	0	0	55·7	53·9		47·4	
	20	0	0	53·5	55·4	58	48·3	57
	21	0	0	50·0	57·3		48·7	
	22	0	0	49·0	58·5	55	49·9	55
	23	0	0	47·9	58·5		52·0	

September 21 and 22, 1840.

Toronto { Decl. 1 Scale Division = 0′·72
H. F. { The instruments were removing from the temporary to the permanent Observatory.
V. F. { nent Observatory.

Regular and extra observations.[a]

20	18	0	0	168·4				
		20	0	0	171·8				
		22	0	0	192·6				
21	0	7	0	165·3				
		2	0	0	161·4				
		4	0	0	162·1				
		6	0	0	153·4				
		8	0	0	166·4				
		10	0	0	169·6				
		12	0	0	166·0				
		14	0	0	204·1				
		16	0	0	163·4				
		18	0	0	151·7				
		20	0	0	168·2				
21	16	26			168·9				
		26	26		167·6				
		31	26		168·3				
		41	26		168·3				
		46	26		164·5				
		56	26		153·0				
22		1	26		139·3				

September 21 and 22, 1840.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
21	22	11	26	117·7				
		16	26	94·9				
		26	26	102·2				
		36	26	123·3				
		41	26	144·5				
		46	26	150·7				
	23	1	26	163·8				
22	0	0	0	180·0				
	2	0	0	161·0				
	4	0	0	161·9				
	6	0	0	150·2				
	8	0	0	173·5				
	10	0	0	172·7				
	12	0	0	163·7				
	14	0	0	172·5				
	16	0	0	178·5				
	18	0	0	165·4				
	20	0	0	168·7				
	22	0	0	155·9				

Mean positions at the usual hours of observation, from the 18th to the 25th September inclusive.

		0	0	0	167·8				
		2	0	0	167·1				
		4	0	0	162·1				
		6	0	0	157·1				
		8	0	0	164·6				
		10	0	0	170·4				
		12	0	0	166·8				
		14	0	0	182·1				
		16	0	0	168·4				
		18	0	0	166·1				
		20	0	0	171·2				
		22	0	0	164·9				

St. Helena { Decl. 1 Scale Division = 0′·71
H. F. k = ·00019; q. = ·0003

Regular and extra observations.
The H. F. was observed 1^m. 0^s. after the times specified.

20	14	0	0	66·2	91·3	59		
		15	0	0	67·8	91·9	59		
		16	0	0	66·9	92·4	59		
		18	0	0	67·1	93·1	59		
		20	0	0	68·0	95·4	59		
		22	0	0	64·8	94·3	60		
		23	0	0	65·9	92·1	60		
21		0	0	0	64·8				
		2	0	0	69·0	81·1	61		

September 21 and 22, 1840.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
21	2	15	47	69·9	79·9			
		25	47	69·8	79·0			
		35	47	69·7	76·4			
		45	47	70·0	74·0			
		55	47	69·2	74·0			
	3	0	0	69·2	74·0	62		
		5	47	67·2	74·0			
		10	47		75·0			
		15	47	69·9	73·9			
		20	47		73·2			
		25	47	69·8	72·2			
		30	47		71·0			
		35	47	67·9	71·0			
		40	47		71·0			
		45	47	68·0	69·9			
		50	47		68·9			
		55	47	68·9	67·8			
	4	0	0	69·0	66·9	63		
		5	47	68·0	65·0			
		10	47		64·3			
		15	47	66·9	64·0			
		20	47		62·5			
		25	47		61·5			
		30	47		62·2			
		35	47		63·9			
		40	47		64·0			
		45	47		64·5			
		50	47		63·8			
		55	47		63·2			
	5	0	47	66·1	63·3	67		
		5	47		63·0			
		10	47		63·0			
		15	47		62·1			
		20	47		62 9			
		25	47		61·2			
		30	47		62·1			
		35	47		62·0			
		40	47		61·0			
		45	47	68·3	61·0			
		50	47		61·0			
		55	47	67·2	62·0			
	6	0	0	66·0	62·9	64		
		5	47	66·3	63·1			
		10	47		63·2			
		15	47	65·1	63·2			
		20	47		63·5			
		25	47	65·0	64·1			
		30	47		65·0			
		35	47	65·3	66·1			
		40	47		66·9			
		45	47	65·3	67·1			

d.	h.	m.	Wind.	
[a]21	20	0	Calm	Clouded round the horizon, clear in zenith. Auroral light in the North.
	21	0	Calm	Clear; auroral light in the North.
		16	Calm	Aurora appearing in quick pulsations, covering the whole Northern part of the sky from N.W. to N.E., extending nearly to the zenith.
		26	Calm	Pulsations still continuing, mixed with streamers, very bright to Eastward of North; a bank of orange-coloured haze running along the North horizon. Pulsations shorter and quicker than when last observed.
		31	Calm	After a short pause of about three or four seconds, a succession of six or seven very bright flashes, and then another pause, &c.; brightest towards the West of North; a very bright bank due North.
		41	Calm	Nearly as at 21^h. 31^m., the pulsations rather quicker and not extending so high.

d.	h.	m.	Wind.	
21	21	46	Calm	Brilliancy greatly diminished; three large streamers West of North, alt. about 40°, connected by a bright bank with several smaller ones nearly N.E.; pulsations very slow, and a considerable interval between them.
		56	Calm	Pulsations greatly diminished; a very bright bank of an orange tinge extending from N.W. to N.E., in the form of an arch.
	22	11	Calm	Arch remarkably bright, showing as much light as the moon at the full; pulsations very weak, brightest in N.W.
		16	Calm	Arch very bright; several very bright streamers of a reddish colour at the Western end of the arch; pulsations hardly visible.
		26	Calm	Arch still very bright, contracted in length, but more elevated; several very bright streamers at both extremities; pulsations very faint.
		35	Calm	Arch nearly disappeared; a few streamers rather faint in N.W., and also in N.E.; pulsations only just visible.
		41	Calm	No appearance of Aurora.

September 21 and 22, 1840.									September 21 and 22, 1840.									September 21 and 22, 1840.								
M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.		M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.		M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °	d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °	d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
21	6	50	47		68·0				21	12	25	47	64·0	80·0				21	20	55	47	68·2	83·6			
		55	47	65·2	68·1						30	47		80·0					21	5	47	68·8	83·8			
	7	0	0		68·4	62					35	47	63·9	80·0						15	47	68.1	84·1			
		5	47	65·1	68·0						40	47		80·2						25	47	67·9	84·7			
		10	47		67·9						45	47	63·0	80·5						35	47	67·0	84·0			
		15	47	64·8	67·2						50	47		80·0						45	47	66·4	82·2			
		20	47		67·2						55	47	62·9	79·0						55	47	66·5	80·7			
		25	47	64·9	68·0					13	0	0		77·6	59				22	5	47	65·9	79·2	59		
		30	47		67·8						5	47	63·0	76·9						15	47	65·3	78·2			
		35	47	65·0	68·0						10	47		77·5						25	47	64·5	79·0			
		40	47		67·9						15	47	64·0	80·8						35	47	64·5	79·0			
		45	47	65·1	67·8						35	47	65·1	90·1						45	47	64·5	80·2			
		50	47		67·5						40	47		91·0						55	47	64·8	82·9			
		55	47	65·6	67·5						45	47	65·7	91·3					23	5	47	64·4	84·0			
	8	0	0	65·8	67·4	61					50	47		91·0						15	47	65·0	85·8			
		5	47	66·4	71·5						55	47	65·4	90·0						25	47	64·8	86·2			
		10	47		74·4					14	0	0	65·1		59					35	47	63·0	86·0			
		15	47	68·5	74·8						5	47	64·7							45	47	63·1	87·0			
		20	47		73·0						10	47		88·7						55	47	63·1	88·1			
		25	47	66·7	72·7						15	47	64·4	88·0				22	0	5	47	63·0	88·6	60		
		30	47		73·3						20	47		87·0						15	47	63·0	90·0			
		35	47	65·4	72·5						25	47	64·9	87·3						25	47	64·0	90·1			
		40	47		72·6						30	47		85·2						35	47	63·1	90·5			
		45	47	64·9	73·0						35	47	64·0	85·0						45	47	63·9	90·7			
		50	47		73·1						40	47		84·9						55	47	63·1	90·0			
		55	47	64·7	73·7						45	47	64·0	84·3					1	5	47	63·1	90·2			
	9	0	0		73·5	60					50	47		84·0						15	47	63·5	90·3			
		5	47	64·6	73·9						55	47	64·7	83·3						25	47	63·4	90·4			
		10	47		73·8					15	0	0	64·6	82·9	59					35	47	64·6	90·1			
		15	47	63·0	74·0						5	47	64·4	82·5						45	47	63·9	89·8			
		20	47		72·3						10	47		82·9						55	47	63·0	88·6			
		25	47	62·9	71·9						15	47	64·2	82·1					2	5	47	64·2	86·9	60		
		30	47		71·3						20	47		82·7						15	47	64·1	87·3			
		35	47	63·0	70·0						25	47	64·2	82·0						25	47	64·0	87·0			
		40	47		69·6						30	47		81·9						35	47	64·4	88·2			
		45	47	62·5	68·9						45	47	64·2	82·0						45	47	64·8	88·0			
		50	47		68·0						55	47	64·8	82·2						55	47	65·0	86·5			
		55	47	62·7	67·3					16	0	0	64·0	82·3	59				3	5	47	64·1	86·0			
	10	0	0	63·0	68·0	60					5	47	64·5	82·5						15	47	63·0	85·7			
		5	47	63·1	68·1						15	47	64·5	82·9						25	47	63·0	86·5			
		10	47		68·2						25	47	64·4	83·3						35	47	62·5	86·1			
		15	47	64·0	69·0						35	47	64·6	84·0						45	47	62·9	85·8			
		20	47		70·1						45	47	64·6	84·1						55	47	63·0	86·0			
		25	47	64·3	71·2						55	47	64·7	84·6					4	5	47	62·9	85·0	61		
		30	47		72·1					17	5	47	64·5	85·5						15	47	62·9	83·6			
		35	47	64·8	73·0						15	47	64·1	85·9						25	47	62·4	82·9			
		40	47		73·5						25	47	64·1	86·1						35	47	62·0	81·0			
		45	47	64·9	74·5						35	47	64·3	87·2						45	47	61·5	77·5			
		50	47		75·0						45	47	64·9	89·4						55	47	60·9	73·9			
		55	47	65·9	76·5						55	47	65·7	90·8					5	5	47	61·3	73·9			
	11	0	0	65·9	73·0	59				18	5	47	67·1	91·2	59					15	47	61·0	75·0			
		5	47	66·2	81·5						15	47	66·3	91·0						25	47	61·0	75·8			
		10	47		82·0						25	47	66·7	90·4						35	47	61·1	76·0			
		15	47	66·0	82·5						35	47	67·7	90·0						45	47	61·8	75·0			
		20	47		82·7						45	47	68·6	89·5						55	47	62·8	75·0			
		25	47	65·9	82·1						55	47	70·0	89·0					6	5	47	62·8	76·0	60		
		30	47		81·2					19	5	47	71·0	88·7						15	47	62·8	76·5			
		35	47	65·1	80·9						15	47	71·1	88·3						25	47	63·1	78·3			
		40	47		80·5						25	47	71·0	87·0						35	47	63·5	79·8			
		45	47	64·5	80·4						35	47	70·9	85·7						45	47	63·9	80·2			
		50	47		80·3						45	47	70·6	85·2						55	47	63·3	79·1			
		55	47	65·1	80·0						55	47	71·0	84·8					7	5	47	63·4	78·0			
	12	0	0	64·0	79·2	59				20	5	47	69·9	82·9	59					15	47	63·0	77·3			
		5	47	63·9	78·9						15	47	70·0	82·0						25	47	63·5	81·5			
		10	47		78·9						25	47	69·2	81·5						35	47	65·0	84·1			
		15	47	63·9	79·0						35	47	68·9	81·4						45	47	65·0	84·5			
		20	47		79·1						45	47	68·2	82·6						55	47	65·0	83·1			

September 21 and 22, 1840.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
22	8	5	47	64·8	83·7	59		
		15	47	65·4	83·5			
		25	47	64·9	82·9			
		35	47	64·5	82·1			
		45	47	64·7	81·7			
		55	47	64·2	81·1			
	10	0	0	66·1	88·2	59		
	11	0	0	65·9	87·1	59		
	12	0	0	65·0	85·5	59		
	14	0	0	65·1	88·9	59		
	15	0	0	64·8	88·7	58		
	16	0	0	64·5	88·9	58		
	18	0	0	66·2	92·0	58		
	20	0	0	67·1	88·1	57		
	22	0	0	65·0	88·7	58		
	23	0	0	65·1	95·4	59		

Mean Positions at the usual hours of observation during the Month.[a]

	0	0	0	65·8	89·4	61	
	2	0	0	67·0	87·7	62	
	3	0	0	66·2	84·9	63	
	4	0	0	66·1	82·3	63	
	5	0	0	65·9	79·2	64	
	6	0	0	65·7	77·7	63	
	8	0	0	66·7	78·0	61	
	10	0	0	66·7	79·0	60	
	11	0	0	67·0	79·8	60	
	12	0	0	66·8	80·7	60	
	14	0	0	66·9	81·7	59	
	16	0	0	66·8	82·8	59	
	18	0	0	67·6	83·6	59	
	20	0	0	68·6	83·9	59	
	22	0	0	65·3	87·1	59	
	23	0	0	65·6	89·7	60	

Antarctic Expedition at Hobarton, Van Diemen Island.

Decl. 1 Scale Division = 0′·73
H. F. k = ·000271; q =
V. F. k = ; q =

Positions at the usual hours of observation from September 20th, 12^h. to September 22nd, 23^h.

20	12	0	0	39·5	65·6	47	60·4	47
	13	0	0	41·4	65·4	48	57·6	48
	14	0	0	43·8	64·4	51	52·7	52
	15	0	0	48·4	58·9	57	45·7	57
	16	0	0	51·0	53·8	61	44·9	60
	17	0	0	53·0	53·8	63	38·6	62
	18	0	0	53·6	52·7	64	41·0	62
	19	0	0	52·3	53·0	63	42·1	61
	20	0	0	51·9	54·2	61	47·1	59
	21	0	0	50·4	56·5	59	49·5	57
	22	0	0	51·7	48·7	57	56·8	56
	23	0	0	49·8	36·3	56	62·3	56
21	0	0	0	08·2	50·3	55	50·7	55
	1	0	0	30·3	43·6	54	57·0	54
	2	0	0	40·7	47·3	53	60·5	54
	3	0	0	43·7	56·0	53	39·6	54

September 21 and 22, 1840.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
21	4	0	0	18·4	47·4	53	38·7	53
	5	0	0	26·2	41·6	52	45·3	53
	6	0	0	49·2	44·6	52	36·3	53
	7	0	0	43·5	51·6	52	42·4	52
	8	0	0	40·5	49·2	51	47·4	52
	9	0	0	46·1	49·7	51	45·7	52
	10	0	0	48·7	43·4	51	48·7	51
	11	0	0	41·9	45·4	52	49·6	52
	12	0	0	43·2	50·3	52	49·6	53
	13	0	0	46·5	40·2	54	59·7	55
	14	0	0	51·5	45·9	55	56·6	56
	15	0	0	51·8	45·3	62	41·8	61
	16	0	0	54·8	47·3	65	37·6	64
	17	0	0	54·4	42·7	67	41·5	65
	18	0	0	52·6	37·8	68	47·0	66
	19	0	0	56·5	34·9	66	55·1	64
	20	0	0	54·4	35·8	63	58·8	61
	21	0	0	44·5	47·6	60	44·2	59
	22	0	0	40·3	49·4	58	44·2	58
	23	0	0	43·8	43·1	56	59·6	56
22	0	0	0	45·9	52·6	54	54·3	55
	1	0	0	37·7	54·4	53	53·5	54
	2	0	0	53·0	60·5	52	51·2	53
	3	0	0	47·7	55·4	51	51·3	52
	4	0	0	45·2	58·9	51	53·4	52
	5	0	0	48·7	69·4	50	49·4	50
	6	0	0	37·4	64·0	48	45·5	50
	7	0	0	43·1	53·4	49	55·4	49
	8	0	0	51·0	53·7	49	60·4	49
	9	0	0	49·7	56·2	49	55·8	49
	10	0	0	45·2	54·8	49	56·9	49
	11	0	0	44·4	52·8	51	58·5	50
	12	0	0	44·2	55·9	52	53·9	51
	13	0	0	43·3	54·7	54	50·3	54
	14	0	0	47·0	50·5	58	45·4	54
	15	0	0	49·3	47·3	63	44·3	62
	16	0	0	53·4	42·1	67	36·9	66
	17	0	0	57·6	37·3	71	31·8	72
	18	0	0	58·0	34·6	72	26·1	75
	19	0	0	58·4	33·2	71	39·5	71
	20	0	0	54·2	39·3	68	39·8	69
	21	0	0	40·9	39·4	65	36·1	65
	22	0	0	41·3	41·2	62	44·5	63
	23	0	0	41·5	36·0	60	52·5	61

Mean Positions at the same hours during the Month.

	0	0	0	45·4	61·3	52	52·5	53
	1	0	0	45·0	60·6		53·7	
	2	0	0	46·7	62·4	50	54·3	52
	3	0	0	47·2	63·4		54·2	
	4	0	0	46·0	64·0	49	54·4	50
	5	0	0	48·2	64·3		55·9	
	6	0	0	50·0	65·3	49	55·2	49
	7	0	0	48·9	65·9		56·4	
	8	0	0	50·0	66·0	48	56·8	49
	9	0	0	48·6	66·4		56·5	
	10	0	0	46·6	66·1	48	56·5	48
	11	0	0	44·6	64·7		56·4	
	12	0	0	42·1	64·4	48	55·4	49
	13	0	0	44·7	61·0		56·0	
	14	0	0	47·7	57·8	51	54·8	52
	15	0	0	50·6	55·5		52·3	

September 21 and 22, 1840.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
	16	0	0	54·1	53·9	56	49·8	56
	17	0	0	56·3	54·2		46·8	
	18	0	0	56·7	53·2	59	47·3	58
	19	0	0	55·7	53·9		47·4	
	20	0	0	53·5	55·4	58	48·3	57
	21	0	0	50·0	57·3		48·7	
	22	0	0	49·0	58·5	55	49·9	55
	23	0	0	47·9	58·5		52·0	

October 19, 20, 21, and 22, 1840.

Toronto { Decl. 1 Scale Division = 0′·72 ; H. F. k = ·000074; q = ·0002 ; V. F. k = ·00009; q = ·00018[b]

Regular and extra observations.

The V. F. was observed at 1^m. 3^s. before, and the H. F. 2^m. 30^s. after the times specified.

18	18	0	0	26·3	394·7	52	49·4	52
	20	0	0	61·0	388·5	53	66·2	53
	22	0	0	30·1	409·0	53	57·6	53
19	0	0	0	15·5	406·5	53	56·2	53
	2	0	0	31·7	399·0	54	57·8	54
	4	0	0	15·8	366·3	55	56·1	55
		45	30	20·1	364·7		56·7	
		50	30	23·8	342·7		55·9	
		55	30	26·6	336·0		56·2	
	5	5	30	27·2	338·7	55	55·3	
		10	30	23·9	322·7		54·2	
		20	30	23·6	320·9		50·9	
		30	30	20·0	316·4		50·3	
		40	30	6·6	336·2		51·1	
		50	30	10·9	335·3		48·2	
		55	30	14·9	334·1		45·4	
6	0	30		15·7	336·4	56	42·7	56
		5	30	19·7	350·4		45·1	
		10	30	14·7	353·0		46·8	
		15	30	16·4	357·3		48·1	
		20	30	19·3	386·4		47·7	
		25	30	14·8	363·8		42·5	
		30	30	19·0	349·6		44·9	
		35	30	16·6	350·0		43·6	
		40	30	19·7	341·1		43·9	
		45	30	19·9	359·0		45·0	
		50	30	18·5	372·8		45·6	
		55	30	18·4	354·7		44·1	
7	0	30		17·0	358·7	57	48·0	56
		5	30	16·4	358·9		48·7	
		10	30	18·3	366·0		46·7	
		15	30	17·0	359·5		47·3	
		20	30	16·3	358·5			
		25	30	17·4	367·6		45·0	
		30	30	17·8	378·4		43·6	
		35	30	18·7	367·5		43·0	
		40	30	17·8	346·5		44·2	
		45	30	16·8	371·7		48·4	
		50	30	13·3	380·4		41·4	
		55	30	15·1	386·7		38·4	
8	0	30		17·4	375·5	57	37·2	56
		5	30	20·2	364·3		40·3	
		10	30	19·7	374·7		36·0	
		15	30	20·1	375·2		38·9	

[a] The mean positions during the month, of the H. F. magnet, are not strictly comparable with those of the 21st and 22nd, in consequence of the stretching of the suspension wires.

[b] This value is approximate.

October 19, 20, 21, and 22, 1840.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. ○	Sc.-Div^{ns}.	Ther. ○
19	8	20	30	20·5	377·6		40·8	
		25	30	18·6	370·0		40·6	
		30	30	19·7	369·7		43·2	
	10	0	0	24·9	384·9	57	48·1	57
		20	30	25·0	387·7		47·4	
		25	30	25·1	387·6		47·2	
	12	0	0	46·8	361·2	57	41·8	57
	14	0	0[a]	38·4	350·6	57	49·1	57
	16	0	0	38·8	387·7	56	56·4	56
		14	0	33·8	360·3[b]			
		19	0	27·8	351·0		63·4	
		24	0	19·0	342·4		62·3	
		34	0	19·9	336·8		60·7	
		39	0	26·1	347·0		59·6	
		44	0	29·7	342·7		54·7	
		49	0	24·1	321·7		55·7	
		54	0	27·4	318·2		62·8	
		59	0	30·1	339·2		69·3	
	17	4	0	23·9	341·2	56	72·6	57
		9	0	24·5	333·0		73·0	
		14	0		353·5		65·8	
		19	0	26·1	374·2		67·3	
		24	0	25·5	376·0		66·7	
		29	0	24·1	373·7		67·7	
		34	0	23·4	371·0		68·0	
		39	0	28·2	382·7		66·8	
		44	0	27·2	379·7		63·8	
		49	0	29·4	386·0		61·1	
	18	0	0	30·6	391·9	56	58·2	57
	20	0	0	19·6	371·4	55	62·8	55
	22	0	0	26·4	397·2	54	55·3	54
20	0	0	0	27·4	407·2	53	50·1	55
	2	0	0	13·7	380·4	54	58·7	56
		20	0	19·3	367·3			
		25	0	18·8	359·9		57·0	
		30	0	15·6	362·7		56·2	
		35	0	15·3	369·8		56·0	
		40	0	16·9	380·1		54·4	
		45	0	17·1	388·2		53·0	
		50	0	17·6	390·8		52·5	
		55	0	18·0	384·5		53·1	
	3	0	0	20·8	377·4	55	54·1	56
		5	0	24·4	379·2		54·6	
		10	0	23·2	379·5		54·4	
	4	0	0	23·5	383·6	54	58·7	
	6	0	0	21·9	371·7	54	52·6	55
		30	0	23·6	370·1	55	50·9	55
	7	0	0	26·6	384·4	55	50·0	55
		30	0	25·4	287·0	55	46·9	56
	8	0	0	25·7	385·3	56	50·8	57
		30	0	24·7	392·6	56	49·9	56

October 19, 20, 21, and 22, 1840.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. ○	Sc.-Div^{ns}.	Ther. ○
20	9	0	0	24·7			50·3	56
	10	0	0	22·5	341·1	59	49·8	59
	12	0	0	34 2	367·2	58	49·6	58
	14	0	0	28·9	384·0	57	49·5	57
	16	0	0	47·0	408·8	56	59·1	56
	18	0	0	35·7	398·2	55	58·5	55
	20	0	0	21·9	388·6	54	55·4	54
	22	0	0	22·2	402·4	54	53·3	54
21	0	0	0	15·1	363·7	53	57·7	53
	2	0	0	32·4	403·6	53	51·2	54
	2	30	0	34·3	399·2	53	51·0	54
	3	0	0	30·2	396·2	53	50·6	53
	3	30	0	27·9	377·3	53	51·1	53
	4	0	0	22·7	363·0	53	51·1	54
	4	30	0	18·4	342·7	53	50·7	54
	5	0	0	16·7	354·5	53	47·7	54
	5	30	0	12·0	364·3	53	46·9	54
	6	0	0	13·0	378·5	53	43·8	54
	6	30	0	15·9	375·2	53	43·8	54
	7	0	0	16·9	374·1	53	43·0	54
	7	30	0	20·4	392·4	53	38·6	54
	8	0	0	21·7	403·1	53	42·1	54
	8	30	0	18·0	382·2	53	44·5	54
	9	0	0	18·3	384·9	53	43·1	54
	9	30	0	17·2	383·5	53	42·8	54
	10	0	0	19·6	383·1	53	42·7	53
	12	0	0	24·0	381·2	53	43·7	53
	14	0	0	29·9	383·8	53	46·5	53
	16	0	0	59·6	405·0	52	51·5	52
	18	0	0	34·0	388·7	53	53·3	53
	20	0	0	36·9	383·2	51	57·4	51
	22	0	0	31·1	410·3	51	54·5	51
22	0	0	0	31·6	413·4	51	47·5	51
	2	0	0	38·4	402·4	51	47·5	51
	4	0	0	24·2	346·3	52	50·8	52
	6	0	0	20·8	372·7	53	45·8	53
	8	0	0	22·3	384·9	53	48·1	53
	10	0	0	26·6	391·0	53	45·4	53
	12	0	0	27·7	478·7	53	46·8	53
	14	0	0	39·7	418·6	53	46·0	54
	15	34	30[c]	36·3	369·3		47·0	
		39	30	37·8	369·8		47·0	
		44	30	45·1	374·7		47·8	
		49	30	52·2	386·2		48·4	
		54	30	46·0	390·5		52·4	
	16	9	0	41·9	380·7	52	55·0	54
		14	30	43·3	379·2		55·6	
		19	30	42·5	381·8		55·1	
		24	30	39·4	382·2		54·3	
		29	30	38·1	381·5		54·3	
		34	30	36·0	378·5		54·0	

October 19, 20, 21, and 22, 1840.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	c. -Div^{ns}.	Sc.-Div^{ns}.	Ther. ○	Sc.-Div^{ns}.	Ther. ○
22	16	39	30	35·4	375·0		54·6	
	17	19	30	34·4	358·3	53	59·5	54
		24	30	35·3	355·9		60·6	
		29	30	36·0	353·7		61·6	
		34	30	37·0	355·1		64·1	
		39	30	39·0	363·7		64·9	
		44	30	38·3	371·6		64·6	
	18	0	0	23·3	377·5	53	69·4	53
	20	0	0	26·9	374·3	53	58·8	54
	22	0	0	33·0	399·3	53	61·5	53

Breaks having occurred in the monthly series, there are no mean positions with which the observations on October 19, 20, 21, and 22, are comparable.

St. Helena { Decl. 1 Scale Division = 0′·71
H. F. k = ·00019; q = ·0003

Regular and extra observations.

18	14	0	0	64·4	27·1	60
		15	0	0	62·1	26·2	60
		16	0	0	62·5	27·9	60
		18	0	0	62·1	28·9	60
		19	0	0	60·5	29·5	60
		20	0	0	57·9	31·0	60
			5	0	58·0	29·1	
			10	0	59·0		
			15	0	59·0	28·9	
			20	0	58·1		
			25	0	58·0	29·0	
			30	0	57·9		
			35	0	57·4		
			40	0	57·2		
			45	0	57·3		
			50	0	57·9	29·0	
			55	0			
21		0	0	57·8			
		5	0	57·8			
		10	0				
		15	0				
		20	0	58·9	30·1	60
		25	0	59·0		
		30	0	59·4	30·2	
		35	0	58·9		
		40	0	59·0	30·1	
		45	0	59·0		
		50	0	59·0	30·0	
		55	0	59·1		
22		0	0	59·4	32·0	60
		5	0	60·5	33·4	
		10	0	61·5	34·4	

d.	h.	m.	Wind.	
[a]19	14	0	W. light	Clear; auroral light to North.
	16	0	W. light	A few scattered cumuli, remainder clear; auroral light to N.
		25	W. light	Faint arch of light to North, alt. about 8°, two streamers issuing from it; a few cumuli in North horizon.
		30	W. light	Two concentric arches of light in North, alt. of exterior arch 10°, of interior 8°; bright patch in N.E., small streamers issuing from it.
		35	W. light	Arches breaking up; bright patches and small streamers from N.E. to N.W., average alt. about 15°.
		45	W. light	General appearance changing rapidly from arches to streamers and patches; slight pulsations.
		50	W. light	A bank of well-defined strati appearing in North, rendered very distinct by auroral light; cumuli rising in N.W.
		55	W. light	Three bright patches proceeding from N.W. towards East; horizon clouded with strati.
	17	20	W. light	Streamers from N.W. to N.E.; slight pulsations.
20	17	40	W. light	Three or 4 streamers in N.; bank of cumu-strati in N. horizon.
		45	W. light	Faint auroral light in the North only.
		55	W. light	Bank of strati in North horizon. Auroral light disappeared.
	18	0	W. light	A dense bank of strati from N.W. to N.E.; remainder clear.

[b] The H. F. was observed at 1^m. 30^s. after the times specified, from 19^d. 16^h. 14^m. to 19^d. 17^h. 49^m., and 2^m. after the times specified, from 20^d. 2^h. 20^m. to 23^d. 3^h. 10^m.

d.	h.	m.	Wind.	
[c]22	15	30	Calm	Dark rounded masses ranged in concentric circles, the centre in the line of the meridian, alt. 60°, much broken. A faint auroral light. A few stars dimly visible.
	16	0	S.W. light	Clouded as before, circles broken up, heavier masses in N.
		40	S. light	Clouded, with dark haze, partially clear to S. and near zenith; faint streaks of light to N.; a fringe of faint light towards zenith, stretching from E. to W. Auroral light to S.W. very faint.
	17	0	S.W.	Moderate gusts. Densely clouded. Very dark.
	18	0	S.	Moderate. Densely clouded with cir-cumuli. Broken cumuli in North, edges of clouds tinged with faint auroral light.

October 19, 20, 21, and 22, 1840.								October 19, 20, 21, and 22, 1840.								October 19, 20, 21, and 22, 1840.							
M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.		M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.		M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °	d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °	d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
18	22	15	0	61·3	34·1				19	3	50	0	67·2	22·4				19	15	0	0	64·1	22·0	60		
		20	0	60·1	33·0						55	0	66·9	20·7					16	0	0	62·0	22·8	60		
		25	0	60·4	33·0					4	0	0	66·5	20·2	63				18	0	0	63·0	23·3	60		
		30	0	60·9	32·8						5	0	65·0	19·9					19	30	0	63·9	22·7	60		
		35	0	61·8	33·6						10	0	64·4	19·9					20	0	0	62·7	25·0	60		
		40	0	62·6	35·0						15	0	64·1	19·0					20	30	0	62·9				
		45	0	63·4	35·9						20	0	63·9	20·0					22	0	0	64·1	29·8	60		
		50	0	63·1	36·2						25	0	63·7	20·0					23	0	0	65·8	30·9	61		
		55	0	63·7	36·7						30	0	63·8	21·0				20	0	0	0	65·9	32·6	61		
	23	0	0	63·9		61					35	0	64·0	21·9					2	0	0	64·0	37·0	62		
		5	0	63·8	34·4						40	0	64·9	21·9					3	0	0	63·2	26·0	63		
		10	0	64·0	35·3						45	0	65·2	21·0					4	0	0	59·9	27·0	62		
		15	0	63·5	35·0						50	0	65·8	20·9					5	0	0	59·2	27·5	62		
		20	0	63·3	34·5						55	0	66·0	20·8					6	0	0	62·1	23·0	62		
		25	0	64·0	35·0					5	0	0	66·0	20·0	64				8	0	0	64·1	24·9	62		
		30	0	65·0	35·2						5	0	66·2	19·9					10	0	0	64·2	25·5	60		
		35	0	65·6	36·2						10	0	66·1	19·9					11	0	0	65·0	26·9	60		
		40	0	66·1	36·3						15	0	66·0	19·8					12	0	0	64·9	26·1	60		
		45	0	66·0	34·9						20	0	65·9	18·8					13	0	0	64·9	25·9	60		
		50	0	65·5	33·4						25	0	65·1	17·6					15	0	0	63·9	25·6	60		
		55	0	64·8	32·7						30	0	65·1	16·5					16	0	0	63·4	27·0	60		
19	0	0	0	66·6	33·2	60					35	0	64·9	15·0					18	0	0	63·4	27·2	60		
		5	0	67·1	33·3						40	0	63·9	13·9					19	30	0	63·4	27·0	60		
		10	0	67·5	33·4						45	0	63·1	14·0					20	0	0	63·5	27·0	60		
		15	0	67·4	33·2						50	0	63·6	15·1					20	30	0	62·6	29·0	60		
		20	0	67·8	33·1						55	0	63·8	15·5					22	0	0	63·0	26·9	60		
		25	0	67·9	32·5					6	0	0	63·4	15·0	63				23	0	0	64·9	35·0	60		
		30	0	67·6	31·7						5	0	63·5	14·9				21	0	0	0	63·1	31·0	61		
		35	0	67·2	31·6						10	0	63·9	14·0					2	0	0	66·8	37·0	62		
		40	0	66·6	31·0						15	0	64·0	13·8					3	0	0	65·8	34·7	63		
		45	0	66·1	30·1						20	0	63·9	13·0					4	0	0	64·1	28·5	63		
		50	0	65·4	29·4						25	0	64·0	13·8					5	0	0	62·8	22·8	63		
		55	0	65·2	29·1						30	0	65·7	12·9					6	0	0	62·7	26·0	62		
	1	0	0	66·0	29·0	61					35	0	63·1	12·4					8	0	0	63·1	19·1	61		
		5	0	66·3	28·8						40	0	63·2	12·2					10	0	0	64·0	17·8	61		
		10	0	66·8	28·2						45	0	63·5	12·2					11	0	0	65·1	23·6	61		
		15	0	67·1	28·1						50	0	63·8	12·8					12	0	0	64·9	25·6	60		
		20	0	67·6	28·5						55	0	63·8	12·5					13	0	0	65·1	27·8	60		
		25	0	68·0	29·1					7	0	0	63·8	12·0	63				14	0	0	64·9	26·9	60		
		30	0	66·9	28·7						5	0	63·8	12·1					15	0	0	63·0	25·5	60		
		35	0	66·2	28·4						10	0	63·9	12·1					16	0	0	63·3	31·1	60		
		40	0	65·9	28·4						15	0	64·0	12·2					18	0	0	62·6	31·0	60		
		45	0	65·4	28·0						20	0	64·0	12·0					19	30	0	61·9	31·4	60		
		50	0	65·5	28·0						25	0	64·2	11·6					20	0	0	61·5	31·0	60		
		55	0	65·6	28·0						30	0	64·5	11·2					20	30	0	61·2	30·8	60		
	2	0	0	66·8		62					35	0	64·7	11·0					22	0	0	64·9	32·5	60		
		5	0	66·9							40	0	64·3	10·5					23	0	0	68·0	33·9	61		
		10	0	67·0	28·0						45	0	64·1	10·8				22	0	0	0	70·1	34·0	62		
		15	0	66·0	26·2						50	0	64·2	12·6					2	0	0	68·8	32·9	64		
		20	0	65·3	26·0						55	0	64·1	14·1					3	0	0	66·6	30·2	62		
		25	0	65·8	26·0					8	0	0	64·1	15·5	62				4	0	0	64·2	22·6	63		
		30	0	66·1	25·8						5	0	64·2	16·1					5	0	0	62·0	16·2	63		
		35	0	66·0	25·0						10	0	64·2	15·3					6	0	0	62·9	17·1	62		
		40	0	66·0	24·6						15	0	64·9	15·0					8	0	0	64·0	23·9	61		
		45	0	65·9	24·5						20	0	64·9	14·2					10	0	0	65·0	25·0	60		
		50	0	65·8	24·9						25	0	64·9	14·0					11	0	0	65·1	26·0	60		
		55	0	65·8	24·8						30	0	64·6	14·0					12	0	0	64·0	26·0			
	3	0	0	65·2	24·8	63					35	0	64·2	14·6					13	0	0	64·0	28·1	60		
		5	0	65·0	24·9						40	0	64·2	15·3					14	0	0	63·1	24·9	60		
		10	0	65·0	25·0						45	0	64·4	15·3					15	0	0	62·8	26·1	60		
		15	0	65·5	25·1						50	0	65·0	16·9					16	0	0	62·5	27·0	60		
		20	0	65·9	25·1						55	0	64·9	16·9					18	0	0	60·8	26·7	60		
		25	0	66·5	25·1					10	0	0	65·4	16·4	61				19	30	0	58·1	26·5	59		
		30	0	66·6	25·0					11	0	0	65·2	18·2	61					35	0	58·0	26·5			
		35	0	66·4	24·2					12	0	0	65·3	20·1	61					40	0	57·9	26·5			
		40	0	66·6	23·7					13	0	0	63·9	21·7	61					45	0	57·9	26·6			
		45	0	67·1	23·1					14	0	0	62·9	23·5	60					50	0	57·8	26·3			

October 19, 20, 21, and 22, 1840.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
22	19	55	0	57·2	26·3			
	20	0	0	56·8	26·8	60		
		5	0	56·1	26·9			
		10	0	56·0	27·0			
		15	0	56·1	27·0			
		20	0	56·1	27·0			
		25	0	56·5	27·0			
		30	0	56·0	27·0	60		
		35	0	56·2	27·0			
		40	0	56·2	27·0			
		45	0	56·6	27·0			
		50	0	57·0	27·0			
		55	0	57·0	27·2			
	21	0	0	57·0	28·5			
		5	0	57·0	29·0			
		10	0	57·3	29·2			
		15	0	57·8	30·0			
		20	0	58·0	30·4			
		25	0	58·2	30·8			
		30	0	58·8	31·0			
		35	0	59·0	31·1			
		40	0	59·1	31·1			
		45	0	59·5	31·1			
		50	0	60·2	31·6			
		55	0	60·9	31·6			
	22	0	0	61·0	31·6	60		
		10	0	62·0				
		15	0					
		20	0	63·0				
		25	0	63·2				
		30	0	63·3				
		35	0	63·9				
		40	0	63·9				
		45	0	64·0				
		50	0	64·4				
		55	0	64·9				
	23	0	0	65·5	31·8	61		

Mean Positions at the usual hours of observation during the Month.

0	0	0	66·9	34·3	63
2	0	0	69·3	32·4	64
3	0	0	68·2	29·2	65
4	0	0	65·6	26·7	66
5	0	0	63·8	24·4	66
6	0	0	63·8	23·0	65
8	0	0	64·9	22·7	63
10	0	0	65·2	22·8	62
11	0	0	65·2	23·6	62
12	0	0	65·4	24·3	62
13	0	0	65·1	25·1	62
14	0	0	65·2	25·0	61
15	0	0	65·0	25·2	61
16	0	0	65·0	26·0	61
18	0	0	64·9	26·4	61
19	30	0	64·7	27·0	61
20	0	0	63·3	28·1	61
20	30	0	62·4	28·9	61
22	0	0	62·6	31·8	61
23	0	0	64·5	33·6	62

October 19, 20, 21, and 22, 1840.

Van Diemen Island: { Decl. 1 Scale Div. = 0′·71; H. F. k = ·0003; q =

Regular and extra observations.

The H. F. was observed at 2^{m}. 30^{s}. after the times specified.[a]

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
18	14	0	0	57·2	64·6	62		
	15	0	0	63·9	65·9			
	16	0	0	72·0	65·0	65		
	17	0	0	72·4	68·5			
	18	0	0	71·7	72·8	65		
	19	0	0	72·0	71·3			
	20	0	0	72·5	72·0	65		
	21	0	0	65·0	67·3			
	22	0	0	61·6	71·7	63		
	23	0	0	60·3	70·7			
19	0	0	0	52·4	69·4	60		
	1	0	0	49·0	66·1			
	2	0	0	54·6	72·7	60		
	3	0	0	48·9	72·5	59		
		5	0	51·0	72·2			
		10	0	49·2	72·0			
		15	0	49·1				
		20	0	49·4				
	4	0	0	39·3	72·2	58		
		5	0	38·1				
		10	0	40·0	72·1			
		15	0	40·7				
		20	0	42·1	72·0			
		25	0	50·0				
		30	0	50·6	71·3			
		35	0	51·2				
		40	0	51·2				
		45	0	51·1				
	5	0	0	57·7	67·1	58		
		10	0	41·3				
		15	0	42·5				
		25	0	43·7	78·0			
		32	30	41·6	76·1			
		37	30	43·2	75·6			
		42	30	46·1	74·3			
		50	0	46·7	72·1			
		55	0	46·6				
	6	0	0	46·6	71·1	57		
		7	30	41·6	69·4			
		12	30	39·2	68·8			
		17	30	38·6	69·1			
		22	30	39·9	69·1			
		30	0	42·5	70·5			
		37	30	45·5	71·7			
		42	30	47·3	72·1			
		47	30	48·9	71·6			
		52	30	50·3	71·7	57		
	7	0	0	49·1	73·4			
		7	30	51·1	71·6			
		12	30	51·3	72·3			
		17	30	50·9	71·8			
	8	0	0	48·7	69·5	57		
		5	0	49·9	70·1			

October 19, 20, 21, and 22, 1840.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
19	8	10	0	53·2	69·5			
		15	0	53·6	69·0			
		20	0	54·0	68·0			
		25	0	52·9	67·2			
		30	0	52·8	69·3			
		35	0	55·4	68·9			
		40	0	54·6	69·3			
		45	0	53·8	67·5			
		50	0	51·2	68·1			
		55	0	50·9				
	9	0	0	50·9	69·5	56		
	10	0	0	47·1	66·6	56		
	11	0	0	46·9	65·9			
	12	0	0	52·0	64·6	57		
	13	0	0	54·4	62·3	61		
	14	0	0	63·7	59·3			
	15	0	0	64·6	65·0			
	16	0	0	68·0	65·4	65		
	17	0	0	66·4	65·9			
	18	0	0	66·3	67·5	68		
	19	0	0	65·6	66·5			
	20	0	0	65·1	69·0	71		
	21	0	0	57·2	69·9			
	22	0	0	61·3	68·5	68		
	23	0	0	61·3	69·9			
20	0	0	0	60·6	70·2	66		
	1	0	0	55·7	69·6			
	2	0	0	49·0	65·7	62		
	3	0	0	51·4	72·3			
	4	0	0	54·9	68·4	62		
	5	0	0	58·2	68·8			
	6	0	0	58·2	69·1	60		
	7	0	0	63·0	71·4			
	8	0	0	57·6	72·5	58		
	9	0	0	52·5	73·3			
	10	0	0	54·7	71·2	58		
	11	0	0	53·3	68·3			
	12	0	0	52·6	65·6	57		
	13	0	0	54·2	67·9			
	14	0	0	57·5	69·1	57		
	15	0	0	62·5	68·9			
	16	0	0	68·5	70·6	59		
	17	0	0	66·9	72·2			
	18	0	0	66·7	73·8	60		
	19	0	0	67·2	76·0			
	20	0	0	61·3	75·1	59		
	21	0	0	59·7	75·0			
	22	0	0	61·9	74·2	57		
	23	0	0	60·5	74·2			
21	0	0	0	46·8	77·9	56		
	1	0	0	57·3	74·5			
	2	0	0	58·2	74·5	55		
	3	0	0	57·8	75·5			
	4	0	0	62·2	79·9	52		
	5	0	0	61·5	80·6			
	6	0	0	49·6	77·9	49		
	7	0	0	58·7	77·1			
	8	0	0	59·2	79·3	50		
	9	0	0	56·4	79·9			
	10	0	0	53·1	77·8	46		

[a] "A clear star-light, with great visibility of distant objects, and but little wind. At 18^{d}. 22^{h}. 50^{m}. a faint yellowish light visible in the S.S.E. which remained with little or no change in its intensity until 19^{d}. 3^{h}. 50^{m}., when it increased considerably for a quarter of an hour, and threw out a few faint corruscations towards the zenith to an altitude of about 40°, these latter only lasting a short time. On going to the Observatory, I found that the Declination magnet was vibrating considerably, and rapidly changing its mean position; consecutive observations were then taken, until it was considered to have regained its proper position. The H. F. magnet was observed during the same period, as also the V. F., but the latter did not exhibit any symptom of being affected in the same manner as the two former.

(Signed) "J. C. Ross."

October 19, 20, 21, and 22, 1840.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
21	11	0	0	51·5	74·7			
	12	0	0	50·5	71·7	51		
	13	0	0	52·7	68·0			
	14	0	0	58·5	69·2	56		
	15	0	0	65·5	68·5			
	16	0	0	71·0	68·8	61		
	17	0	0	69·9	72·3			
	18	0	0	71·1	72·2	63		
	19	0	0	70·5	71·3			
	20	0	0	66·6	70·9	65		
	21	0	0	54·9	71·4			
	22	0	0	60·3	70·8	63		
	23	0	0	60·4	72·8			
22	0	0	0	59·5	73·4	63		
	1	0	0	59·6	74·2			
	2	0	0	59·8	74·1	61		
	3	0	0	60·3	75·9			
	4	0	0	51·3	76·0	60		
	5	0	0	51·3	74·7			
	6	0	0	59·9	72·4	59		
	7	0	0	60·1	70·9			
	8	0	0	57·8	72·6	56		
	9	0	0	55·1	72·8			
	10	0	0	52·6	72·7	58		
	11	0	0	48·6	70·7			
	12	0	0	47·8	68·2	60		
	13	0	0	52·2	63·6			
	14	0	0	58·7	62·8	66		
	15	0	0	67·9	63·0			
	16	0	0	74·3	64·8	69		
	17	0	0	76·4	66·0			
	18	0	0	74·0	69·8	74		
	19	0	0	70·1	68·1			
	20	0	0	69·3	66·0	72		
	21	0	0	65·8	63·5			
	22	0	0	61·0	65·0	70		
	23	0	0	61·7	67·6			

Mean Positions at the usual hours of observation during the Month.[a]

0	0	0	56·4	68·7	62	
1	0	0	55·3	69·1		
2	0	0	55·5	69·3	60	
3	0	0	56·1	69·5		
4	0	0	54·9	69·6	59	
5	0	0	57·2	69·8		
6	0	0	57·0	70·1	57	
7	0	0	58·2	70·4		
8	0	0	57·7	71·3	56	
9	0	0	55·8	71·6		
10	0	0	53·3	71·3	56	

October 19, 20, 21, and 22, 1840.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
	11	0	0	50·7	69·9			
	12	0	0	50·4	67·7	57		
	13	0	0	52·5	65·9			
	14	0	0	57·5	64·6	61		
	15	0	0	62·8	65·0			
	16	0	0	67·4	65·7	63		
	17	0	0	68·7	67·4			
	18	0	0	68·8	68·3	65		
	19	0	0	66·8	68·3			
	20	0	0	64·1	68·3	66		
	21	0	0	61·1	67·7			
	22	0	0	59·9	67·6	64		
	23	0	0	59·1	68·5			

November 13 and 14, 1840.

Toronto { Decl. 1 Scale Division = 0′·72 ; H. F. k = ·00075 ; q = ·0002 ; V. F. k = ·00009 ; q = ·00018

Extra observations.

The V. F. was observed at 1^{m}. 40^{s}. before, and the H. F. 2^{m}. 2^{s}. after the times specified.

13	12	40	0[b]	53·2	465·9	51	35·2	52
		45	0	53·6	469·6		35·1	
		50	0	52·3	469·7		35·1	
		55	0	50·8	470·4		35·1	
	13	0	0	49·0	469·5	51	35·4	52
		5	0	47·3	465·4		35·4	
		10	0	46·8	462·1		35·0	
		15	0	46·9	461·4		35·5	
		20	0	45·5	463·0		34·7	
		25	0	43·6	463·3		32·7	
		30	0	45·1	460·3		32·4	
		35	0	45·5	460·1		32·3	
		40	0	47·1	457·8		30·1	
		45	0	46·3	451·3		30·6	
		50	0	43·4	451·5		29·9	
		55	0	55·5	455·7		29·0	
	14	0	0	59·0	460·4	51	28·1	52
		5	0	61·6	457·2		28·7	
		10	0	62·9	460·9		29·6	
		15	0	61·4	459·2		28·3	
		20	0	62·9	463·1		30·3	
		25	0	65·0	464·6		32·3	
		30	0	68·5	470·6		32·3	
		35	0	64·2	471·0		34·4	
		40	0	57·7	468·0		37·7	
		45	0	55·2	460·8		39·0	
		50	0	54·0	462·8		37·1	

November 13 and 14, 1840.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
13	14	55	0	55·0	462·7		37·1	
	15	0	0	54·1	460·1	51	37·1	52
		5	0	54·8	458·4		37·1	
		10	0	55·6	458·9		37·1	
		15	0	55·8	459·4		37·1	
		20	0	56·5	459·4		37·1	
		25	0	57·9	458·2		37·1	
		30	0	57·0	460·5		38·8	
		35	0	56·7	460·3		38·8	
		40	0	54·8	461·5		38·9	
		45	0	55·4	464·7		38·9	
		50	0	58·0	464·8		38·9	

Positions at the usual hours of observation, November 13 and 14.

13	0	0	0	52·8	497·0	49	40·7	51
	2	0	0	51·1	485·3	49	39·3	50
	4	0	0	53·1	480·5	49	40·9	50
	6	0	0	47·7	469·6	51	42·8	51
	8	0	0	44·2	485·5	52	41·5	52
	10	0	0	47·3	477·7	52	39·7	52
	12	0	0	42·5	467·1	51	34·2	52
	14	0	0	55·5	460·4	51	28·1	52
	16	0	0	56·7	468·0	50	40·5	52
	18	0	0	47·8	477·0	49	38·8	50
	20	0	0	45·3	474·8	48	37·3	50
	22	0	0	41·4	458·1	47	42·3	49
14	0	0	0	46·5	492·4	47	42·5	49
	2	0	0	50·7	481·5	47	36·1	48
	4	0	0	40·9	467·2	46	39·3	48
	6	0	0	45·7	449·7	47	36·8	48
	8	0	0	43·1	476·8	47	33·2	48
	10	0	0	45·0	458·7	47	27·4	48
	12	0	0	51·8	489·0	47	32·1	48
	14	0	0	52·0	482·3	47	31·2	48
	16	0	0[c]	55·3	468·6	47	32·4	48

Mean Positions at the same hours during the Month.[d]

	0	0	0	54·3	493·3	46	42·6	46
	2	0	0	56·2	487·6	46	41·0	46
	4	0	0	50·4	474·5	46	41·1	47
	6	0	0	46·7	467·4	47	41·0	47
	8	0	0	46·3	479·2	48	39·7	48
	10	0	0	50·1	477·3	48	39·9	48
	12	0	0	52·4	482·8	48	39·8	48
	14	0	0	56·4	483·8	48	39·8	48
	16	0	0	55·4	481·7	47	40·9	47
	18	0	0	52·9	481·4	46	40·5	47
	20	0	0	51·8	479·7	46	42·8	47
	22	0	0	52·6	483·5	46	43·7	46

[a] The mean positions of the H. F. magnet are possibly not strictly comparable with those of the 19th, 20th, 21st, and 22nd, in consequence of the stretching of the suspension wires at so early a date after the adjustment of the instrument.

d.	h.	m.	Wind.	
[b] 13	12	0	N.W. light	Clear ; faint auroral light.
		10		Faint streamers in North, one of them visible for about 20^{m}. or 30^{m}. 5° West of North.
	13	0	Calm	Faint auroral light in North.
		30	Calm	Arch of auroral light, extending from N.W. to N.E. alt. of centre about 8° ; four small streamers at West extremity visible for a few minutes.
		45	Calm	Eight very bright streamers at East end of arch, remaining for a short time, alt. of streamers about 38°, no alteration in the arch.
		55	Calm	The whole extent of the arch brightened very suddenly, throwing up streamers, none exceeding 15° in alt. Haze thickening in North horizon.
13	14	2	Calm	Haze increasing, double arch of light, alt. of lower about 8° ; upper arch very faint, alt. 10° to 15°, dying away from West and in the centre.
14	10	0		Arches nearly broken up, faint light remaining, bright patch steady in N.E. near the point of the moon's rising.
	15	0		A small bright patch appearing in N.N.E. visible for a few seconds only.
	20	0		A very bright patch in North, remainder nearly extinct.
	25	0		Nothing remaining, but faint auroral light.
	30	0	Calm	Aurora brightening again, faint streamers.
	32	0		One very bright streamer moving slowly to Eastward.
	35	0		Streamers growing very faint, bank of light totally gone, moon rising above horizon.
	37	0	Calm	Aurora no longer visible.

[c] Saturday midnight at Toronto.

[d] The mean positions are from the 7th to the 25th November inclusive.

November 13 and 14, 1840.

St. Helena { Decl. 1 Scale Division = 0′·71
H. F. k = ·00019; q = ·0003

Regular and extra observations

The H. F. was observed at 2m. 30s. after the times specified.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
13	0	0	0	77·9	34·0	65		
		30	0	78·1	34·0			
	1	0	0	79·8	32·0	66		
		30	0	80·2	29·8			
	2	0	0	79·3	27·8	67		
		30	0	79·1	27·9			
	3	0	0	80·2	28·0	68		
		30	0	80·8	27·5			
	4	0	0	80·5	27·7	68		
		30	0	80·0	27·0			
	5	0	0	79·1	26·3	68		
		30	0	78·0	24·0			
	6	0	0	76·9	21·0	68		
		30	0	76·1	19·3			
	7	0	0	75·5	16·8	67		
		30	0	76·4	16·4			
	8	0	0	77·2	18·0	65		
		30	0	76·9	18·0			
	9	0	0	76·2	17·1	65		
		30	0	76·2	15·2			
	10	0	0	76·0	14·6	65		
		30	0	76·0	15·4			
	11	0	0	76·2	09·5	65		
		30	0	76·1	11·0			
	12	0	0	75·6	11·0	64		
		30	0	75·8	11·4			
	13	0	0	75·5	11·4	64		
		30	0	75·0	09·3			
	14	0	0	73·8	10·8	64		
		30	0	74·0	12·5			
	15	0	0	73·1	12·5	63		
		30	0	73·2	13·8			
	16	0	0	73·2	14·2	63		
		30	0	73·2	15·0			
	17	0	0	74·0	15·5	63		
		30	0	74·0	15·6			
	18	0	0	73·9	15·2	63		
		30	0	74·0	15·8			
	19	0	0	73·8	16·0	63		
		30	0	73·0	17·0			
	20	0	0	71·0	17·5	63		
		30	0	69·5	20·5			
	21	0	0	69·1	20·5	63		
		30	0	69·8	23·1			
	22	0	0	69·7	23·8	63		
		30	0	70·5	21·2			
	23	0	0	71·1	22·8	64		
		30	0	73·1	25·9			
14	0	0	0	74·8	25·4	65		
		30	0	75·8	24·0			
	1	0	0	78·7	24·7	66		
		30	0	78·8	23·7			
	2	0	0	80·5	23·7	66		
		30	0	80·1	20·4			
	3	0	0	79·4	15·6	67		
		30	0	78·0	15·0			
	4	0	0	76·2	15·0	67		
		30	0	75·7	14·0			

November 13 and 14, 1840.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
14	5	0	0	74·3	14·2	67		
		30	0	74·9	12·7			
	6	0	0	74·3	08·3	66		
		30	0	74·1	06·6			
	7	0	0	74·0	10·6	65		
		30	0	75·1	16·5			
	8	0	0	74·0	11·0	65		
		30	0	75·0	09·0			
	9	0	0	74·9	04·0	65		
		30	0	74·4	07·1			
	10	0	0	74·6	05·6	64		
		30	0	75·2	07·5			
	11	0	0	75·2	10·8	64		
		30	0	75·2	11·5			

Mean Positions at the regular hours of observation, during the Month.[a]

	0	0	0	76·1	24·8	65		
	2	0	0	77·6	22·9	66		
	3	0	0	76·3	20·5	67		
	4	0	0	74·7	18·6	67		
	5	0	0	73·6	17·0	67		
	6	0	0	73·5	14·6	67		
	8	0	0	74·6	13·4	65		
	10	0	0	75·2	13·8	64		
	11	0	0	75·1	14·3	64		
	12	0	0	75·0	15·1	64		
	13	0	0	74·6	15·6	64		
	14	0	0	74·1	16·1	63		
	15	0	0	73·7	15·9	63		
	16	0	0	73·4	16·3	63		
	18	0	0	72·6	16·6	63		
	19	30	0	70·9	18·1	63		
	20	0	0	69·7	19·2	63		
	20	30	0	69·4	20·3	63		
	22	0	0	71·2	23·4	63		
	23	0	0	74·1	24·2	64		

Van Diemen Island. { Decl. 1 Scale Division = 0′·71
H. F. k = ·0003; q =
V. F. k =

Positions at the usual hours of observation, November 13 and 14.

13	0	0	0	60·8	87·5	59	60·6	58
	1	0	0	60·5	88·0		63·8	
	2	0	0	50·3	85·2	58	72·8	57
	3	0	0	54·5	84·9		74·0	
	4	0	0	56·9	86·2	57	74·0	56
	5	0	0	57·3	87·1		72·7	
	6	0	0	57·3	85·5	57	72·7	56
	7	0	0	57·7	86·5		71·9	
	8	0	0	56·4	86·8	56	71·9	55
	9	0	0	53·8	86·5		71·9	
	10	0	0	55·0	84·7	56	71·9	54
	11	0	0	54·9	87·5		72·4	
	12	0	0	51·5	84·8	57	72·8	57
	13	0	0	52·5	79·4		73·5	
	14	0	0	59·3	79·6	62	73·5	62
	15	0	0	65·7	78·9		73·1	
	16	0	0	70·9	79·3	68	73·7	67
	17	0	0	71·4	78·7		73·6	

November 13 and 14, 1840.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
13	18	0	0	69·5	80·8	71	73·6	68
	19	0	0	66·7	78·5		85·8	
	20	0	0	64·3	78·3	72	85·2	69
	21	0	0	61·5	77·8		85·2	
	22	0	0	55·8	79·1	71	85·2	69
	23	0	0	51·0	77·8		85·2	
14	0	0	0	53·4	77·6	68	85·0	67
	1	0	0	55·0	77·3		85·0	
	2	0	0[b]	51·6	78·7	67	84·6	65

Mean Positions at the same hours during the Month.

0	0	0	58·4	82·3	63	70·7	61
1	0	0	57·2	82·8		70·8	
2	0	0	56·7	83·3	61	71·2	60
3	0	0	55·9	83·2		70·0	
4	0	0	56·9	83·2	59	70·2	58
5	0	0	57·7	84·0		69·6	
6	0	0	57·9	84·4	58	70·1	57
7	0	0	57·6	84·6		69·9	
8	0	0	57·0	85·2	57	70·0	56
9	0	0	55·4	85·3		69·7	
10	0	0	54·1	84·4	56	69·8	56
11	0	0	52·0	83·8		70·0	
12	0	0	50·8	81·4	58	69·9	58
13	0	0	53·8	79·7		70·6	
14	0	0	58·5	79·0	61	71·5	61
15	0	0	63·8	79·0		70·4	
16	0	0	67·7	80·6	64	70·2	62
17	0	0	69·1	81·7		69·9	
18	0	0	68·0	82·3	66	69·8	63
19	0	0	66·5	82·0		70·8	
20	0	0	63·7	82·0	66	70·5	64
21	0	0	61·2	81·8		70·7	
22	0	0	59·8	81·8	65	70·6	63
23	0	0	58·5	82·2		70·8	

November 20 and 21, 1840.

Toronto { Decl. 1 Scale Division = 0′·72
H. F. k = ·000075; q = ·0002
V. F. k = ·00009; q = ·00018

Extra observations.

The V. F. was observed at 1m. 20s. before, and the H. F. 2m. 40s. after the times specified.

20	14	30	0	80·9	442·2		35·5	
		35	0	82·6	452·9		37·1	
		40	0	84·7	459·2		33·6	
		45	0	80·9	457·0		31·7	
		50	0	80·5	455·2	Reduced to 44·4.[c]	29·7	Reduced to 45·8.[c]
		55	0	81·5	468·2		28·9	
	15	0	0	78·3	471·4		28·8	
		5	0	72·7	459·2		29·7	
		10	0	69·4	456·3		32·1	
		15	0	66·8	458·3		30·9	
		20	0	65·1	460·8		30·8	
		25	0	64·8	463·3		31·1	
		40	0	62·1	477·0		30·0	
		45	0	60·7	480·0		29·8	
		50	0	58·6	483·3		29·8	

[a] The mean positions of the Declination magnet are from the 10th to 30th November inclusive.

[b] Saturday midnight at Van Diemen Island.

[c] The observations of this disturbance were sent to England reduced for temperature as in the text.

November 20 and 21, 1840

In the following observations, the V. F. was observed at 1m. 30s. before, and the H. F. at 2m. 20s. after the times specified.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Divns.	Sc.-Divns.	Ther. °	Sc.-Divns.	Ther. °
20	22	23	40	48·1	460·6		65·8	
		28	40	51·0	438·6		65·2	
		33	40	54·0	438·4		65·8	
		38	40	50·0	422·7		65·9	
		43	40	49·5	435·3		69·7	
		48	40	42·2	420·8		63·4	
		53	40	37·2	413·2		63·5	
		58	40	34·2	422·8		60·3	
	23	3	40	28·6	413·4		64·4	
		8	40	25·6	421·2		62·1	
		13	40	22·3	432·1		68·3	
		18	40	23·9	446·9		68·3	
		23	40	25·0	443·8		61·4	
		28	40	25.2	443·1		66·2	
		33	40	24·5	438·1		62·4	
		38	40	26·7	440·6		62·4	
		43	40	28·4	409·9		62·4	
		48	40	33·0	411·8	Reduced to 43·8.	67·5	Reduced to 45·0.
		53	40				61·8	
21	0	8	40	49·3	472·5			
		13	40	52·1	473·5		50·1	
		18	40	52·4			48·8	
		23	40	52·6	473·4		50·8	
		28	40	50·6	480·2		50·0	
		33	40	50·6	487·4		48·4	
		38	40	51·4	491·7		46·2	
		43	40	49·6			45·6	
		48	40	49·8	478·3			
		53	40	55·6	477·8		42·3	
		58	40	57·3	486·1		41·6	
	1	3	40	54·5			41·3	
		8	40	48·6			40·2	
		13	40	47·0	471·0			
		18	40	45·1	468·1		41·7	
		23	40	44·9	467·4		40·7	
		28	40	45·5	466·1		39·1	
		33	40	48·5	477·6		38·7	
		38	40	46·1	474·8		38·3	
		43	40	45·4			38·1	

Positions at the usual hours of observation, November 20 and 21.

20	0	0	0	55·4	513·9	43	33·5
	2	0	0	56·5	511·9	43	34·2
	4	0	0	42·8	510·7	42	34·3
	6	0	0	39·3	471·1	44	31·9
	8	0	0	45·1	477·5	44	31·4
	10	0	0	51·6	489·5	44	31·4
	12	0	0	47·2	481·4	44	28·2
	14	0	0	87·6	490·5	44	30·2
	16	0	0	54·3	487·0	44	30·4
	18	0	0	50·1	477·7	44	31·0
	20	0	0	50·5	476·4	43	50·9
	22	0	0	20·4	465·4	44	73·1
21	0	0	0	43·6	474·5	44	64·0
	2	0	0	54·2	479·7	45	39·8
	4	0	0	38·8	428·4	44	27·3
	6	0	0	47·2	455·4	44	27·6
	8	0	0	40·6	463·2	44	12·3
	10	0	0	52·3	458·6	44	23·1

November 20 and 21, 1840.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Divns.	Sc.-Divns.	Ther. °	Sc.-Divns.	Ther. °
	12	0	0	53·3	486·6	43	30·3	
	14	0	0	54·8	481·7	42	29·3	
	16	0	0a	60·8	500·8	42	37·1	

The Mean Positions at the same hours during the Month, are given in page 26.

St. Helena { Decl. 1 Scale Division = 0′·71; H. F. k = ·00019; q = ·0003

Positions at the usual hours of observation, November 20 and 21.

20	0	0	0	82·0	32·0	64		
	2	0	0	81·6	33·1	65		
	3	0	0	78·0	21·1	66		
	4	0	0	73·8	20·7	66		
	5	0	0	75·2	15·7	66		
	6	0	0	75·2	07·2	65		
	8	0	0	77·0	08·8	64		
	10	0	0	77·5	12·4	63		
	11	0	0	76·9	13·2	63		
	12	0	0	75·9	09·9	63		
	13	0	0	75·4	16·2	63		
	14	0	0	75·1	18·9	63		
	15	0	0	74·7	16·8	63		
	16	0	0	73·9	14·9	63		
	18	0	0	72·2	15·1	62		
	19	30	0	71·5	17·1	62		
	20	0	0	69·8	18·0	62		
	20	30	0	69·0	20·2	62		
	22	0	0	71·8	19·5	63		
	23	0	0	77·0	17·0	64		
21	0	0	0	77·1	13·0	64		
	2	0	0	71·9	14·6	66		
	3	0	0	73·1	17·8	65		
	4	0	0	72·2	03·6	67		
	5	0	0	71·3	02·0	67		
	6	0	0	72·3	00·5	66		
	8	0	0	76·6	03·7	65		
	10	0	0	77·2	05·8	64		
	11	0	0	76·1	09·0	67		
	12	0	0b	75·9	11·3	63		

The Mean Positions at the same hour during the Month, are given in page 27.

Van Diemen Island. { Decl. 1 Scale Division = 0′·71; H. F. k = ·0001; q =; V. F. k =; q =

Extra observations.

The V. F. was observed at 2m. 30s. before, and the H. F. 2m. 30s. after the times specified.

20	3	10	0	38·1	84·6	64		
		17	30	38·7	83·7		85·8	63
		25	0	40·2	82·2		86·1	
		32	30	41·3	81·2		86·4	
		40	0	46·0	80·7		86·6	
		47	30	49·7	80·1		87·1	
		55	0	51·7			87·3	
	4	10	0	54·1	81·3	63		
		17	30	54·5	82·2			
		25	0	54·4			87·3	63
	23	5	0	54·0	82·3	63		

November 20 and 21, 1840.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Divns.	Sc.-Divns.	Ther. °	Sc.-Divns.	Ther. °
20	23	10	0	53·6				
		15	0	51·3	79·0		87·7	63
		20	0	50·7				
		25	0	48·7	79·5		87·8	
		30	0	47·7				
		35	0	47·3	80·6		87·8	
		40	0	47·5	81·4			

Positions at the usual hours of observation, November 20 and 21.

20	0	0	0	62·4	85·3	65	86·8	63
	1	0	0	61·0	86·0		86·8	
	2	0	0	58·1	87·0	64	86·9	62
	3	0	0	39·6	88·3		85·2	
	4	0	0	52·5	80·0	63	87·7	63
	5	0	0	52·7	83·8		86·8	
	6	0	0	45·2	81·3	63	86·7	62
	7	0	0	50·9	81·4		87·4	
	8	0	0	55·2	81·8	61	87·7	60
	9	0	0	53·2	81·6		87·7	
	10	0	0	51·9	80·1	60	87·6	60
	11	0	0	51·7	78·3		88·9	
	12	0	0	50·4	73·6	60	89·2	60
	13	0	0	54·5	72·9		89·8	
	14	0	0	61·1	73·5	61	89·8	61
	15	0	0	72·6	77·4		89·8	
	16	0	0	75·3	82·8	62	88·2	61
	17	0	0	74·9	88·4		88·2	
	18	0	0	72·7	86·2	65	88·9	63
	19	0	0	71·0	86·2		89·4	
	20	0	0	63·6	84·8	67	89·1	63
	21	0	0	58·6	81·7		89·5	
	22	0	0	61·8	80·4	63	89·2	61
	23	0	0	50·0	83·8		87·2	
21	0	0	0	54·3	79·3	61	87·8	62
	1	0	0	47·2	75·9		88·2	
	2	0	0c	50·4	80·3	59	87·6	58

The Mean Positions at the same hours during the Month are given in page 27.

December 11 and 12, 1840.

Toronto { Decl. 1 Scale Division = 0′·72; H. F. k = ·000075; q = ·00022; V. F. k = ·00009; q = ·00018

Extra observations.

The V. F. was observed at 1m. 40s. before, and the H. F. 2m. 2s. after the times specified.

12	0	20	0	26·9	515·5	43	64·9	44
		25	0	26·2	516·5		64·7	
		30	0	25·8	517·5		65·3	
		35	0	24·0	516·3		65·2	
		45	0	26·4	515·9		64·7	
		50	0	28·9	516·7		62·2	
		55	0	29·9	513·6		62·2	
	1	0	0	31·7	510·8	43	63·2	44
		5	0	31·4	508·4		63·2	
		10	0	30·0	507·2		62·1	
		15	0	30·6	503·1		61·8	
		20	0	34·1	501·5		61·4	
		25	0	38·0	502·2		60·1	
		30	0	38·7	498·7		60·4	
		35	0	41·1	497·3		60·3	

a Saturday midnight at Toronto. b Saturday midnight at St. Helena. c Saturday midnight at Van Diemen Island.

December 11 and 12, 1840.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
12	1	40	0	40·6	497·4		60·4	
		45	0	39·9	497·4		60·5	
	2	20	0	36·6	499·9	43	56·3	44
		25	0	35·6	496·8		55·9	
		30	0	36·0	492·9		55·5	
		35	0	41·3	499·9		56·9	
		40	0	42·2	503·8		53·7	
		45	0	45·8	508·0		53·8	
		50	0	47·1	508·0		53·3	
	3	0	0	52·4	512·0	43	53·3	44
		5	0	52·6	512·5		53·0	
		10	0	52·5	509·8		52·7	
		15	0	54·0	511·1		52·7	
		20	0	54·3	507·7		52·2	
		25	0	53·7	502·8		52·3	
		30	0	52·5	493·9		52·7	
		35	0	50·1	487·0		52·8	
		40	0	50·1	485·8		53·3	
		45	0	48·1	487·0		52·9	
		50	0	44·9	488·3		52·3	
		55	0	43·8	490·3		52·0	
	4	0	0	42·3	485·5	43	51·7	44
		5	0	42·3	487·5		51·6	
		10	0	42·9	486·0		51·6	
		15	0	45·5	485·3		51·6	
		20	0	44·7	487·7		51·5	
		25	0	45·2	488·6		51·1	
		30	0	44·6	491·1		50·4	
		35	0	42·7	490·1		50·4	
		40	0	43·3	491·8		49·5	
		45	0	41·7	491·8		49·4	
		50	0	41·1	492·5		49·3	
		55	0	40·2	488·8		49·1	
	5	0	0	41·6	487·8	43	50·3	44
		5	0	43·3	486·1			
		10	0	41·1	486·1		50·5	
		15	0	43·0	490·5		50·0	
		20	0	44·6	489·5		49·4	
		25	0	45·9	491·1		49·0	
		30	0	46·5	491·6		49·0	
		35	0	43·8	491·2		47·5	
		40	0	44·5	486·7		48·4	
		45	0	43·1	486·3		48·4	
		50	0	43·3	483·1		48·4	
		55	0	43·2	479·5		48·9	
	6	0	0	41·8	482·0	43	48·8	44
		5	0	40·6	481·5		48·5	
		10	0	39·1	475·0		48·4	
		15	0	41·7	485·8		49·6	
		30	0	42·3	486·7		48·3	
	7	30	0	45·0	507·3	43	45·4	44
	8	30	0	45·7	491·9	43		
	9	0	0	46·0	502·6	43	46·8	44
		30	0	46·2	508·5	43	47·0	44
	10	30	0	51·4	511·9	43	46·6	44
	11	0	0	50·7	507·6	43	46·6	44
		30	0	50·0	497·6	43	45·8	44

Positions at the usual hours of observation, December 11 and 12.

11	0	0	0[a]	155·0	523·2	43		
	2	0	0	59·4	520·0	42		
	4	0	0		492·1	43		

December 11 and 12, 1840.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
11	6	0	0	42·2	502·4	44		
	8	0	0	43·7	499·0	44		
	10	0	0		503·0	45		
	12	0	0	52·6	502·9	45	47·6	45
	14	0	0	55·0	512·4	44	49·4	45
	16	0	0	52·0	506·3	43	48·3	44
	18	0	0	51·6	513·2	42	56·4	44
	20	0	0	42·4	487·9	42	58·6	43
	22	0	0	57·3	518·4	42	58·9	43
12	0	0	0	27·6	502·0	43	60·8	44
	2	0	0	39·9	499·8	43	59·9	43
	4	0	0	41·8	484·7	43	53·0	44
	6	0	0	42·1	477·4	44	50·8	45
	8	0	0	44·9	500·0	44	47·8	44
	10	0	0	49·2	504·6	44	49·1	45
	12	0	0	52·4	472·5	44	47·8	45
	14	0	0	65·9	479·7	45	40·9	45
	16	0	0	59·3	493·3	45	48·2	46

Mean Positions at the same hours during the Month.[b]

	0	0	0	46·3	515·8	38	53·9	41
	2	0	0	52·0	512·4	38	50·7	41
	4	0	0	52·4	500·5	39	47·7	41
	6	0	0	47·9	495·3	39	44·6	41
	8	0	0	46·4	503·4	40	43·4	42
	10	0	0	47·5	512·2	40	41·3	42
	12	0	0	50·1	510·5	40	44·8	42
	14	0	0	53·4	510·0	40	44·1	42
	16	0	0	54·7	507·9	39	44·9	42
	18	0	0	54·4	507·9	38	45·9	41
	20	0	0	50·3	506·7	38	50·7	41
	22	0	0	53·3	509·0	38	56·5	41

St. Helena { The pedestals which support the Magnetometers were undergoing removal at this period.

Van Diemen Island. { Decl. 1 Scale Division = 0′·71
H. F. k = 0003; q =
V. F. k = ; q =

Extra observations.

The V. F. was observed at 2^m. 30^s. before, and the H. F. 2^m. 30^s. after the times specified.

11	5	25	0	36·0	51·4	68		
		30	0	37·0				
		35	0	38·4	51·3		55·9	67
		40	0	38·5				
		45	0	38·8	51·6		56·1	
		50	0	39·3				
		55	0	39·8	50·7		56·1	
	6	5	0	40·6	51·6	67	56·3	67
		10	0	41·9				
		15	0	42·0	51·3		56·3	
		20	0	42·5				
		25	0	42·8	51·4		56·3	
		30	0	42·5				

Positions at the usual hours of observation, December 11 and 12.

11	0	0	0	46·3	51·3	72	56·3	71
	1	0	0	46·3	50·4		56·8	
	2	0	0	44·9	52·0	70	56·2	69

December 11 and 12, 1840.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
11	3	0	0	43·2	53·4		56·2	
	4	0	0	41·1	52·5	68	56·2	67
	5	0	0	34·0	54·3		54·6	
	6	0	0	39·6	50·7	67	56·3	67
	7	0	0	40·9	51·3		56·3	
	8	0	0	41·0	52·6	66	56·3	65
	9	0	0	40·0	51·8		56·3	
	10	0	0	37·8	51·9	67	56·3	66
	11	0	0	37·8	51·5		56·3	
	12	0	0	37·4	50·5	67	56·0	66
	13	0	0	42·4	49·0		56·0	
	14	0	0	47·7	47·5	70	56·5	69
	15	0	0	50·6	49·1		55·1	
	16	0	0	54·3	48·0	72	56·1	70
	17	0	0	60·1	53·0		56·5	
	18	0	0	61·4	49·8	73	57·3	69
	19	0	0	62·9	56·6		56·1	
	20	0	0	61·8	58·2	71	56·6	69
	21	0	0	54·6	57·7		56·5	
	22	0	0	55·1	50·5	68	57·7	66
	23	0	0	52·9	53·1		57·5	
12	0	0	0	41·1	51·0	67	57·5	66
	1	0	0	39·7	48·4		57·5	
	2	0	0[c]	37·9	49·9	67	56·1	66

Mean Positions at the same hours during the Month.

	0	0	0	45·8	51·5	71	57·3	69
	1	0	0	45·1	51·6		57·8	
	2	0	0	45·0	52·3	70	57·3	68
	3	0	0	44·7	52·2		58·6	
	4	0	0	44·7	53·0	68	57·9	67
	5	0	0	44·0	53·7		57·7	
	6	0	0	44·3	53·6	66	58·3	66
	7	0	0	43·0	53·8		58·2	
	8	0	0	43·3	54·1	65	58·5	64
	9	0	0	40·6	53·7		58·7	
	10	0	0	39·2	53·6	65	58·6	64
	11	0	0	38·3	52·6		58·7	
	12	0	0	38·9	51·0	66	58·9	66
	13	0	0	42·0	49·3		59·0	
	14	0	0	46·3	48·8	69	59·1	69
	15	0	0	51·1	49·4		58·9	
	16	0	0	54·7	50·6	73	58·6	74
	17	0	0	56·0	51·5		58·3	
	18	0	0	55·5	51·9	75	58·8	75
	19	0	0	54·3	51·9		57·8	
	20	0	0	52·1	51·3	76	56·9	73
	21	0	0	49·8	51·5		57·9	
	22	0	0	48·7	51·4	74	58·0	71
	23	0	0	46·2	51·2		56·5	

December 19, 20, 21, and 22, 1840.

Toronto { Decl. 1 Scale Division = 0′·72
H. F. k = ·000075; q = ·0002
V. F. k = ·00009; q = ·00018

Regular and extra observations.

The V. F. was observed at 1^m. 30^s. before, and the H. F. 2^m. after the times specified.

19	0	0	0	139·4	548·2		60·0	
		30	0	144·5	551·5		59·2	
	1	0	0	150·8	543·3		58·5	

[a] The V. F. magnet was employed during the early hours of the 11th in experiments on temperature corrections.

[b] The mean positions of the V. F. magnet are from December 11th to 22nd inclusive.

[c] Saturday midnight at Van Diemen Island.

DECEMBER 19, 20, 21, and 22, 1840.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
19	13	0	0	149·0	542·7	Reduced to 35°.[b]	56·4	Reduced to 36·5.[b]
	2	0	0	145·6	542·9		54·7	
		30	0	145·7	535·7		54·8	
	3	0	0	143·3	515·2		53·5	
		30	0	141·5	510·6		52·2	
	4	0	0	142·3	510·0		51·7	
	5	0	0	141·8	503·4		51·3	
		30	0	139·6	507·1		49·3	
	6	0	0	137·8	509·8		48·9	
	7	0	0	143·9	511·0		48·9	
		30	0	144·9	514·4		47·4	
	8	0	0	145·0	516·9		48·1	
		30	0	146·1	519·7		48·6	
	9	0	0	146·3	513·0		48·7	
		30	0	145·0	508·7		46·4	
	10	0	0	144·2	519·5		43·6	
		30	0	143·4	524·7		44·7	
	11	0	0	147·8	524·8		44·7	
		30	0	147·0	523·6		45·3	
	12	0	0	148·6	523·8		45·0	
		30	0	150·0	524·1		45·2	
	13	0	0	152·9	515·6		44·9	
		30	0	155·6	503·2		45·9	
	14	0	0	157·1	504·6		44·8	
		30	0	153·0	516·5		44·9	
	15	0	0	153·5	513·5		44·9	
		30	0	152·2	512·2		46·4	
	16	0	0	154·7	512·0		46·9	
20	18	0	0[a]	195·1	465·1		40·6	
		15	0	180·8	473·0		35·3	
		20	0	172·5	488·9		40·5	
		25	0	175·6	404·8	Reduced to 34·2.[b]	34·9	Reduced to 35·5.[b]
		30	0	173·2	493·9		34·8	
		35	0	173·0	499·8		46·0	
		40	0	169·7	498·6		49·6	
		45	0	165·6	494·9		51·5	
		50	0	164·2	490·5		53·2	
		55	0	165·2	477·2		49·3	
	19	0	0	166·5	471·1		58·3	
		5	0	165·9	456·8		58·0	
		10	0	162·7	441·9		57·9	
		15	0	157·3	413·5		63·0	

DECEMBER 19, 20, 21, and 22, 1840.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
20	19	20	0	154·4	418·3	Reduced to 34·2.[b]	68·8	Reduced to 35·5.[b]
		25	0	154·6	414·3		67·3	
		30	0	152·5	400·7		74·6	
		35	0	151·9	407·1		75·3	
		40	0	145·5	422·8		68·6	
		45	0	141·0	419·5		66·3	
		50	0	136·7	419·4		68·8	
		55	0	135·5	427·4		75·2	
	20	0	0	137·3	417·7		77·9	
		20	0	145·8	423·7		82·7	
		25	0	144·0	450·0		78·4	
		30	0	144·5	492·8		74·0	
		35	0	148·7	473·1		71·8	
		40	0	155·0	490·6		81·9	
		45	0	162·5	491·9		77·5	
		50	0	162·6	491·0		78·6	
		55	0	161·7	500·8		81·0	
	21	0	0	153·0	495·6		80·8	
		5	0	148·3	501·1		81·3	
		10	0	146·0	482·6		79·6	
		15	0	145·4	489·9		82·2	
		20	0	142·9	502·3		80·7	
		25	0	134·9	515·2		78·6	
		30	0	142·7	515·4		80·6	
		35	0	138·5	504·9		85·0	
		40	0	133·2	474·0		86·0	
		45	0	122·5	412·0		92·2	
		50	0	93·5	376·8		108·0	
		55	0	133·2	368·2		117·6	
	22	0	0	153·7	407·1		125·4	
		5	0	166·1	422·4		109·6	
		10	0	173·5	432·5		106·5	
		15	0	170·5	462·6		105·2	
		20	0	153·7	452·1		106·8	
		25	0	131·0	430·8		107·5	
		30	0	120·6	419·1		107·5	
		35	0	111·0	360·7		104·6	
		40	0	106·5	361·6		104·6	
		45	0	101·9	364·4		104·1	
		50	0	100·5	390·4		104·3	
		55	0	115·5	365·6		109·5	
	23	0	0	123·0	418·5		109·6	

DECEMBER 19, 20, 21, and 22, 1840.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
20	23	5	0	117·9	420·6	Reduced to 34·2.[b]	104·6	Reduced to 35·5.[b]
		10	0	106·8	450·2		104·6	
		15	0	102·2	456·0		106·4	
		20	0	91·6	470·4		108·4	
		25	0	96·8	485·5		106·0	
		30	0	94·9	468·3		102·5	
		35	0	98·2	450·7		105·0	
		50	0	108·1	459·8		100·4	
		55	0	105·6	435·0		91·1	
21	0	0	0	88·3	452·0		88·5	
		5	0	81·4	476·7		89·9	
		10	0	93·8	499·3		88·4	
		15	0	104·5	493·9		89·1	
		20	0	109·6	480·4		88·5	
		25	0	108·5	476·7		88·4	
		30	0	106·9	482·5		87·1	
		35	0	107·6	479·3		83·8	
		40	0	105·7	463·8		82·1	
		45	0	106·0	452·9		85·1	
		50	0	117·2	452·2		85·9	
		55	0	122·3	459·9		86·2	
	1	5	0	120·6	432·1		73·0	
		10	0	111·6	415·0		71·3	
		15	0	111·0	414·7		73·9	
		20	0	113·0	411·1		71·4	
		25	0	121·0	429·5		81·6	
		30	0	132·7	426·2		79·3	
		35	0	137·3	426·9		74·7	
		40	0	134·9	423·8		71·0	
		45	0	130·6	410·9		69·4	
		50	0	122·8			69·5	
	2	0	0	127·6	397·4		80·6	
		20	0	95·8	360·5		86·9	
		25	0	99·6	364·4		85·8	
		30	0	107·3	372·1		86·3	
		35	0	99·4	359·8		85·9	
		40	0	106·5	363·6		81·3	
		45	0	103·3	387·4		71·0	
		50	0	107·1	408·9		70·4	
		55	0	114·3	412·4		70·4	
	3	0	0	125·4	410·3		72·7	
		5	0	123·1	403·7		68·8	

d.	h.	m.	Wind.	
[a]20	18	0	Calm	Unclouded. Aurora very bright, consisting of a succession of arches stretching from N.W. to N.E. reaching an alt. of 46°, intermixed with several very bright patches. Pulsations, like waves, meeting and forming a beautiful ridge of light across the zenith from East to West, continually changing in appearance and position; a few flashes in the East also.
		25		Decreasing in brightness, the pulsations the same as before, none from the Eastward, a very bright bank in North.
		45	Calm	Aurora considerably diminished, arches disappearing, highest ones first; a meteor of the first magnitude fell from an alt. of 30°, taking a due Northerly course and disappearing in the horizon; a few clouds rising in N.W. and stretching to East, a heavy bank of haze resting in North horizon, the flashes of auroral light appearing to rise from behind it.
	19	0	Calm	Clouds rising rapidly from North and N.W. and stretching to zenith; the pulsations occasionally appearing through the clouds.
		15	Calm	Clouded. Aurora scarcely visible, no pulsations.
		35	Calm	Clouded in North. Aurora brightening up, pulsations appearing through the clouds and extending to the zenith, remainder of the sky clear.
	19	55		Clouded in the North, light very faint and pulsations quicker; bright banks occasionally rising in East and progressing to West, and throwing out a few streamers.
	20	40		Totally clouded so as to prevent the possibility of distinguishing any remarkable features of Aurora.
	21	0	West, freshening	Clouded over; light still perceptible in North through the clouds.

d.	h.	m.	Wind.	
20	21	20	West, dying away	Clouded; light just perceptible near the Northern horizon.
		45		A few breaks in the clouds, Aurora appearing to be in full activity.
	22	25	S.W. light	Densely clouded, Aurora not visible, a light tinge on the edge of the clouds.
		50		Densely clouded.
	23	35	S.W. light	Densely clouded, pulsations visible for a few minutes in the zenith.
21	0	0	Calm	Densely clouded.
	0	0 to 6 0	Generally calm	Heavily clouded with cirro-cumuli and cumuli.
	7	0 to 10 0	Calm	Overcast with dense haze.
	11	0 to 1 0	S.E., brisk	Snowing heavily.
	18	0	S.E. brisk and squally	Densely clouded, ceased snowing.
	19	0	S.W. very light	Densely clouded, very dark.
22	21	0 to 23 0 0	Calm	Continued densely clouded. Observations terminated.

[b] The observations of this disturbance were sent to England reduced for temperature as in the text.

DECEMBER 19, 20, 21, and 22, 1840.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
21	3	10	0	125·3	398·4		67·1	
		20	0	135·0	436·2		64·7	
		25	0	139·6	425·7		65·1	
		30	0	138·6	428·9		62·8	
		35	0	137·0	429·2		69·0	
		40	0	138·5	424·7		56·4	
		45	0	134·8	401·9		55·2	
		50	0	131·7	397·4		53·9	
		55	0	134·2	406·9		54·8	
	4	0	0	132·2	397·1		53·8	
		5	0	131·2	392·7		54·0	
		10	0	133·2	404·0		52·8	
		15	0	131·4	412·2		49·2	
		20	0	134·8	403·2		46·7	
		25	0	133·1	405·2		46·0	
		30	0	133·8	407·9		44·8	
	5	0	0	131·4	421·5		41·6	
		30	0	145·2	456·4		35·7	
	6	0	0	152·0	490·5		31·5	
		30	0	150·5	485·8		31·0	
	7	0	0	144·2	495·4		36·1	
		30	0	141·9	509·6		27·2	
	8	0	0	146·7	492·1		27·7	
		30	0	145·0	512·5		30·0	
	9	5	0	145·3	514·4		27·7	
		10	0	145·3	512·5		27·6	
		15	0	145·4	511·8		27·7	
		20	0	144·9	514·2		27·8	
		25	0	143·5	525·1			
		30	0	140·0	525·5			
		35	0	139·3	531·0			
		40	0	139·3	518·5			
		50	0	147·7	519·9			
		55	0	149·6	530·5			
	10	0	0	148·3	558·1		39·8	
		10	0	142·2	562·7		8·7	
		15	0	140·5	533·6		13·6	
		20	0	151·2	553·6		12·8	
		25	0	145·4	538·2		20·2	
		30	0	148·9	543·1		18·9	
		35	0	142·6	545·0		24·9	
		40	0	143·4	522·9		26·6	
		45	0	143·3	518·5		27·4	
		50	0	142·9	514·6		29·0	
		55	0	145·6	517·5		29·3	
	11	0	0	145·0	515·8		30·4	
		5	0	144·8	512·8		31·6	
		10	0	145·0	512·2		31·5	
		15	0	145·7	509·1		28·6	
		20	0	146·2	511·4		34·4	
		25	0	146·4	509·0		34·2	
	12	0	0	146·9	518·7		35·0	
		30	0	144·6	519·2		35·1	
	13	0	0	148·0	516·3		34·6	
		30	0	165·2	497·7		31·6	
	14	0	0	166·4	515·5		37·1	
		30	0	149·9	519·7		37·3	
	15	0	0	151·0	513·8		35·3	
		30	0	155·4	503·8		33·8	
	16	0	0	157·9	499·7		35·5	
		30	0	162·0	513·6		35·8	
	17	0	0	162·5	506·0		36·5	
		30	0	159·3	499·5		40·3	

Reduced to 34·2.

Reduced to 35·5.

DECEMBER 19, 20, 21, and 22, 1840.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
21	18	0	0	157·7	488·8		41·2	
		30	0	159·1	503·5		42·6	
	19	0	0	157·5	513·2		41·5	
		30	0	154·0	509·5		40·8	
	20	0	0	153·6	512·6		40·9	
		30	0	154·0	511·3		40·7	
	21	0	0	153·2	512·5		41·1	
		30	0	151·5	514·3		40·7	
	22	0	0	151·2	518·6		40·7	
		30	0	151·1	517·4		40·9	
	23	0	0	153·9	520·8		41·5	
		30	0	150·9	521·2		42·1	
22	0	0	0	150·3	525·0	41	42·6	41
	2	0	0	155·0	511·9	40	52·1	41
	4	0	0	152·1	503·9	40	53·6	41
	6	0	0	147·5	488·6	41	50·7	42
	8	0	0	147·0	490·5	41	52·6	42
	10	0	0	146·6	503·6	41	51·4	42
	12	0	0	150·1	513·2	40	51·4	40
	14	0	0	153·0	514·4	40	50·4	40
	16	0	0	155·5	516·9	38	48·8	39
	18	0	0	151·8	518·6	38	48·6	39
	20	0	0	149·6	522·8	37	49·1	38
	22	0	0	150·1	525·8	37	48·6	37

Reduced to 34·2.

Reduced to 35·5.

The Mean Positions at the regular hours of observation during the Month, are given in page 29.

ST. HELENA { The pedestals which support the Magnetometers were undergoing removal at this period.

VAN DIEMEN ISLAND. { Decl. 1 Scale Division = 0′·71
H. F. k = ·0003; q =
V. F. k = ; q =

Regular and extra observations.

The V. F. was observed at 2^h. 30^m. before, and the H. F. 2^h. 30^m. after the times specified.[a]

19	0	0	0	38·7	48·7	79	50·8	77
	1	0	0	44·5	45·3		53·1	
	2	0	0[b]	45·6	47·0	77	51·9	75
20	3	0	0	35·1	39·5		54·3	
		10	0	34·2	45·6			
		15	0	31·5				
		20	0	29·2	40·5		53·1	
		25	0	27·7				
		30	0	32·9	43·6		52·8	
		35	0	35·5				
		40	0	37·7	44·1		52·9	
		45	0	37·7				
		50	0	37·7			52·9	
	4	0	0	36·2	47·5	72	51·0	73
		10	0	31·5				
		15	0	28·6	47·0			
		20	0	23·0	45·2		49·3	
		25	0	17·2				
		30	0	17·6	49·4		48·7	
		35	0	22·5				
		40	0	25·0	49·4		48·7	
		45	0	24·4				
		50	0	26·0			48·3	
	5	0	0	26·6	48·4		48·5	

DECEMBER 19, 20, 21, and 22, 1840.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
20	5	10	0	26·0	48·6			
		15	0	25 1				
		20	0	24·2	48·4		48·8	
		25	0	24·1				
		30	0	24·5	46·5		48·8	
		35	0	29·1				
		40	0	31·4	47·5		50·1	
		45	0	35·6				
		50	0	33·1	48·3		50·4	
		55	0	30·3				
	6	0	0	30·5	49·1	73	48·9	73
		10	0	25·6	46·4			
		15	0	24·4				
		20	0	24·0	46·5		48·5	
		25	0	24·0				
		30	0	24·0	46·5		48·5	
		35	0	24·0				
		40	0	24·0	46·7		48·5	
		45	0	24·7				
		50	0	26·0	46·8		48·5	
		55	0	27·2				
	7	0	0	31·4	48·7		48·9	
	8	0	0	39·0	49·0	72	51·1	72
	9	0	0	30·2	45·9		51·1	
	10	0	0	30·3	46·6	70	51·1	70
	11	0	0	35·7	46·1		51·1	
	12	0	0	41·4	44·7	68	56·1	66
	13	0	0	49·9	44·6		57·5	
	14	0	0	56·0	43·9	67	58·1	65
	15	0	0	59·7	46·1		57·2	
	16	0	0	57·6	48·8	67	59·1	65
	17	0	0	58·4	48·7		58·4	
	18	0	0	57·0	50·4	68	67·4	66
	19	0	0	63·1	57·1		57·6	
	20	0	0	56·7	59·8	68	54·8	66
	21	0	0	56·1	55·5		58·0	
	22	0	0	52·6	57·0	67	56·2	65
	23	0	0	52·4	50·9		56·9	
21	0	0	0	43·1	46·1	66	56·1	65
	1	0	0	41·6	44·0		55·3	
	2	0	0	37·5	43·2	67	50·3	67
	3	0	0	42·3	47·2		42·5	
	4	0	0	50·3	52·3	65	36·6	64
	5	0	0	22·2	55·0		35·6	
		10	0	22·8	50·6			
		15	0	19·4				
		20	0	23·1	49·7		35·6	
		25	0	23·6				
		30	0	25·3	49·9		37·6	
		35	0	25·5				
		40	0	29·3	49·6		39·1	
		45	0	32·4				
		50	0	33·6	48·8		40·1	
		57	30	32·2				
	6	0	0	32·2	46·4	64	41·4	64
		15	0	40·3				
		20	0	42·6	43·7		41·5	
		25	0	40·7				
		30	0	36·6	43·7		40·2	
		35	0	33·6				
		40	0	32·1	43·1		38·5	
		45	0	30·3				
		50	0	27·2	43·2		37·0	

[a] "December 20 and 21, (Göttingen): On conversing the day after this disturbance with Sir John Pedder (Chief Justice), he told me that the Aurora had been plainly seen the night before, and for a short time was very brilliant in some of its corruscations; it was not visible from the observatory. (Signed) "J. H. KAY."

[b] 19^d. 3^h. to 20^d. 2^h. fell on Sunday at Van Diemen Island.

December 19, 20, 21, and 22, 1840.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
21	6	57	30	23·6				
	7	0	0	23·6	44·5		35·4	
		10	0	24·9				
		15	0	29·5				
		20	0	32·4	51·5		35·8	
		25	0	40·2				
		30	0	44·6	53·1		36·6	
		35	0	47·9				
		40	0	50·0	54·8		36·9	
		45	0	54·4				
		50	0	51·7	50·2		37·1	
		57	30	51·1				
	8	0	0	51·1	47·3	64	39·3	63
		10	0	46·9	42·2			
		15	0	53·0				
		20	0	57·9	47·1		43·5	
		25	0	57·1				
		30	0	54·0	48·5		42·3	
		35	0	50·7				
		40	0	46·2	46·0		40·0	
		45	0	45·3				
		50	0	49·1	45·3		41·1	
		57	30	50·6				
	9	0	0	50·5	44·5		42·5	
		15	0	50·2	45·5			
		30	0	49·6	46·1			
	10	0	0	52·5	46·2	64	44·2	63
	11	0	0	45·8	45·3		45·3	
	12	0	0	39·7	45·5	63	47·6	63
	13	0	0	40·7	42·9		48·4	
	14	0	0	44·2	41·6	66	50·8	66
	15	0	0	48·0	46·2		50·8	
	16	0	0	53·2	47·2	70	52·9	69
	17	0	0	56·7	47·6		52·9	
	18	0	0	56·7	49·4	73	52·7	69
	19	0	0	53·6	48·4		51·8	
	20	0	0	49·5	48·5	74	50·8	71
	21	0	0	47·1	48·9		50·8	
	22	0	0	47·0	48·8	74	51·5	69
	23	0	0	46·6	49·0		51·5	
22	0	0	0	43·3	50·4	69	50·1	67
	1	0	0	47·6	51·2		53·0	
	2	0	0	48·4	52·4	68	52·2	66
	3	0	0	49·4	52·5		52·6	
	4	0	0	48·6	52·8	67	52·6	64
	5	0	0	49·5	53·8		52·6	
	6	0	0	49·2	54·2	65	52·6	63
	7	0	0	47·3	53·2		52·6	
	8	0	0	41·9	54·1	63	52·8	62
	9	0	0	39·3	54·5		53·7	
	10	0	0	38·2	54·0	64	52·0	63
	11	0	0	38·9	53·1		51·8	
	12	0	0	43·1	51·6	67	52·1	67
	13	0	0	48·6	49·1		52·1	
	14	0	0	53·6	48·9	70	50·4	71
	15	0	0	57·9	48·8		49·8	
	16	0	0	57·6	50·5	76	48·7	74
	17	0	0	56·8	53·0		49·8	
	18	0	0	55·1	52·9	79	49·8	76
	19	0	0	53·3	52·9		49·8	
	20	0	0	52·3	52·8	79	49·8	77
	21	0	0	50·1	51·4		48·2	
	22	0	0	49·8	52·0	77	48·2	74
	23	0	0	48·9	52·3		49·8	

The Mean Positions at the regular hours of observation during the Month, are given in page 29.

January 13 and 14, 1841.

Toronto { Decl. 1 Scale Division = 0′·72; H. F. k = ·000076; q = ·0002; V. F. k = ·00009; q = ·00018

Extra observations.

The V. F. was observed at 1^m. 30^s. before, and the H. F. 2^m. after the times specified.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
13	2	30	0	50·6	459·3	40	91·4	41
		35	0	54·6	459·1		91·5	
		40	0	56·1	462·9		91·2	
		45	0	57·4	457·5		91·1	
		50	0	58·0	457·4		91·6	
		55	0	58·6	456·7		91·4	
	3	0	0	59·0	456·7	40	91·3	41
		5	0	59·8	455·9		91·5	
		10	0	59·0	453·6		91·7	
		15	0	59·5	455·5		91·8	
		20	0	59·1	452·8		91·9	
		25	0	59·2	452·0		92·0	
		30	0	59·5	450·4		92·5	
		35	0	59·1	453·1		91·6	
		40	0	55·9	445·3		92·6	
		45	0	58·1	443·3		92·7	
		50	0	59·3	447·3		92·8	
	4	0	0	55·6	440·7	40	92·5	41
		10	0	55·7	437·0		93·0	
		15	0	55·6	433·1		92·5	
		20	0	55·9	433·2		93·0	
		25	0	55·8	433·4		93·4	
		30	0	56·7	434·4		92·2	
		35	0	55·7	432·6		94·4	
		40	0	56·3	433·7		94·2	
		45	0	56·5	434·5		94·0	
		50	0	54·8	431·8		93·4	
		55	0	54·6	432·0		94·9	
	5	5	0	52·3	428·6	40	95·7	41
		10	0	53·0	428·4		95·7	

Positions at the usual hours of observation, January 13 and 14.

13	0	0	0	53·1	443·1	41	88·7	42
	2	0	0	38·1	443·4	41	90·2	41
	4	0	0	55·6	440·7	41	92·5	41
	6	0	0	52·9	430·4	41	95·8	41
	8	0	0	48·8	431·6	41	96·8	41
	10	0	0	50·5	444·0	41	96·7	41
	12	0	0	53·5	443·0	41	97·2	41
	14	0	0	59·0	433·2	41	97·0	41
	16	0	0	56·0	432·7	41	97·1	41
	18	0	0	56·5	444·1	41	93·6	41
	20	0	0	54·8	434·8	41	94·9	41
	22	0	0	52·2	424·9	41	95·5	41
14	0	0	0	45·9	435·7	41	93·4	41
	2	0	0	56·9	455·1	40	95·9	41
	4	0	0	53·1	430·1	40	95·5	41
	6	0	0	48·7	423·3	41	97·5	41
	8	0	0	43·4	425·1	41	98·5	41
	10	0	0	44·9	439·0	41	99·6	41
	12	0	0	52·0	431·7	41	99·9	41
	14	0	0	48·6	427·1	41	97·9	41
	16	0	0	60·8	425·7	41	102·2	41
	18	0	0	62·1	434·5	41	99·0	42
	20	0	0	53·0	434·0	42	98·0	42
	22	0	0	53·3	442·4	42	88·3	42

January 13 and 14, 1841.

Mean Positions at the same hours during the Month.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
h.	d.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
0	0	0		52·6	451·2	38	97·6	39
2	0	0		55·3	454·0	38	99·6	39
4	0	0		56·6	445·7	38	98·1	39
6	0	0		51·0	430·2	38	98·3	39
8	0	0		48·1	434·7	38	99·3	40
10	0	0		49·0	443·9	38	99·5	40
12	0	0		52·1	444·3	38	99·3	40
14	0	0		55·9	442·2	38	99·3	40
16	0	0		57·1	439·2	38	99·0	40
18	0	0		55·9	443·6	38	99·3	39
20	0	0		55·1	445·6	38	98·1	39
22	0	0		54·9	445·6	38	97·7	39

St. Helena { Decl. 1 Scale Division = 0′·71; H. F. k = ·00022; q = ·0003

Positions at the usual hours of observation, January 13 and 14.

13	0	0	0	54·0	21·9	66
	2	0	0	55·0	18·9	68
	3	0	0	55·0	21·0	67
	4	0	0	53·0	19·6	68
	5	0	0	53·0	19·2	68
	6	0	0	53·2	17·8	68
	8	0	0	55·0	19·3	68
	10	0	0	56·1	14·9	66
	11	0	0	56·1	14·2	66
	12	0	0	54·9	15·0	66
	13	0	0	55·0	15·0	66
	14	0	0	54·9	16·4	66
	15	0	0	55·7	16·4	66
	16	0	0	53·1	16·1	66
	18	0	0	53·2	17·2	65
	19	30	0	50·2	17·5	65
	20	0	0	51·8	17·8	65
	20	30	0	50·8	18·0	65
	22	0	0	52·1	19·9	65
	23	0	0	52·2	30·0	65
14	0	0	0	55·1	22·0	66
	2	0	0	53·8	20·5	67
	3	0	0	54·8	18·3	68
	4	0	0	53·5	14·2	68
	5	0	0	52 5	11·2	68
	6	0	0	53·4	10·2	68
	8	0	0	55·7	9·0	68
	10	0	0	56·7	11·0	66
	11	0	0	56·1	10·7	66
	12	0	0	56·2	12·2	66
	13	0	0	55·3	18·0	66
	14	0	0	55·7	14·3	66
	15	0	0	55·1	16·4	65
	16	0	0	54·0	16·0	65
	18	0	0	54·0	16·2	65
	19	30	0	54·0	17·0	65
	20	0	0	53·9	17·6	65
	20	30	0	53·9	19·6	65
	22	0	0	53·8	20·5	64
	23	0	0	54·0	20·5	65

Mean Positions at the same hours during the Month.

0	0	0		55·4	21·0	66
2	0	0		55·1	20·1	67
3	0	0		54·0	19·6	68

JANUARY 13 and 14, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
	4	0	0	53·3	18·3	68		
	5	0	0	53·6	17·2	68		
	6	0	0	53·4	15·9	68		
	8	0	0	54·5	15·1	67		
	10	0	0	55·2	14·5	67		
	11	0	0	55·4	14·0	67		
	12	0	0	55·2	14·4	67		
	13	0	0	54·8	15·1	66		
	14	0	0	54·4	15·0	66		
	15	0	0	54·3	16·1	66		
	16	0	0	54·1	15·9	66		
	18	0	0	53·4	16·3	66		
	19	30	0	52·0	16·9	66		
	20	0	0	51·4	17·7	65		
	20	30	0	50·6	18·6	65		
	22	0	0	52·2	19·9	65		
	23	0	0	53·9	21·0	66		

VAN DIEMEN ISLAND { Decl. 1 Scale Division = 0′·71
H. F. k = ·0003; q =
V. F. k = ; q =

Extra and regular observations.

Positions at the usual hours of observation, January 13.

13	0	0	0	41·0	11·0	73	7·2	71
	1	0	0	38·6	12·9		6·1	
	2	0	0	28·2	06·0	71	6·9	69
	3	0	0	33·7	8·7		8·1	
	4	0	0	36·2	10·0	68	7·5	66
	5	0	0	35·8	11·5		7·0	
	6	0	0	35·8	12·9	66	6·5	66
	7	0	0	33·2	13·3		6·5	
	8	0	0	32·6	13·0	64	6·5	64
	9	0	0	30·6	14·1		6·3	
	10	0	0	26·5	14·5	63	5·9	63
	11	0	0	28·6	14·6		4·9	
	12	0	0	29·8	12·9	67	5·2	66
	13	0	0	35·4	11·4		5·1	
	14	0	0	37·9	8·9	73	5·1	73
	15	0	0	43·7	8·1		5·1	
	16	0	0	48·2	9·4	78	4·8	75
	17	0	0	49·2	10·0		4·8	
	18	0	0	47·9	10·8	79	4·3	75
	19	0	0	47·2	9·9		4·2	
	20	0	0	47·6	9·6	79	4·1	75
	21	0	0	45·6	9·8		4·1	
	22	0	0	43·6	8·9	77	5·0	74
	23	0	0	35·5	7·3		3·9	
14	0	0	0	32·8	9·8	74	3·2	73
	1	0	0	33·0	8·7		4·3	
	2	0	0	32·6	8·5	73	5·0	73
	3	0	0	29·8	10·8		3·4	
	4	0	0	25·8	9·7	71	3·4	70
	5	0	0	32·8	7·7		5·3	
	6	0	0	32·1	8·5	69	4·7	68
	7	0	0	32·5	12·0		3·4	
	8	0	0	29·3	11·1	66	5·0	66
	9	0	0	31·3	13·3		4·3	
	10	0	0	25·8	11·8	66	4·4	65
	11	0	0	26·7	10·1		4·4	
	12	0	0	28·4	9·3	66	4·9	65
	13	0	0	30·8	7·5		5·1	
	14	0	0	35·5	6·7	67	4·9	67
	15	0	0	41·9	6·3		6·5	
	16	0	0	47·1	9·5	70	5·2	68
	17	0	0	49·1	13·0		4·4	

JANUARY 13 and 14, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
14	18	0	0	49·4	11·2	72	5·4	69
	19	0	0	47·8	13·3		4·0	
	20	0	0	43·3	11·6	74	4·0	72
	21	0	0	43·3	11·6		4·0	
	22	0	0	40·4	10·1	73	5·0	71
	23	0	0	41·1	12·9		5·0	

Mean Positions at the same hours during the Month.

0	0	0	37·8	11·6	71	4·7	70
1	0	0	36·5	12·5		4·4	
2	0	0	36·5	12·4	69	4·7	68
3	0	0	36·8	13·0		4·5	
4	0	0	35·7	12·7	68	5·0	67
5	0	0	36·0	13·2		5·1	
6	0	0	36·5	13·6	66	5·3	65
7	0	0	36·0	14·0		5·3	
8	0	0	34·8	14·4	64	5·3	64
9	0	0	33·2	14·6		5·3	
10	0	0	30·9	13·4	64	5·6	63
11	0	0	30·4	12·2		5·4	
12	0	0	31·1	11·8	65	5·4	65
13	0	0	32·9	10·8		5·4	
14	0	0	38·3	9·4	69	5·5	69
15	0	0	43·1	9·3		5·2	
16	0	0	46·8	10·3	73	4·8	71
17	0	0	48·4	11·4		4·4	
18	0	0	47·3	11·9	75	4·3	73
19	0	0	45·0	11·9		3·9	
20	0	0	43·2	11·0	76	4·1	73
21	0	0	41·2	10·0		4·1	
22	0	0	39·9	10·9	74	4·2	72
23	0	0	39·2	11·5		4·3	

JANUARY 18 and 19, 1841.

TORONTO { Decl. 1 Scale Division = 0′·72
H. F. k = ·000076; q = ·0002
V. F. k = ·00009; q = ·00018

Extra observations.

The V. F. was observed at 1^{m}. 30^{s}. before, and the H. F. 2^{m}. after the times specified.

18	0	15	0	50·7	463·5	32	103·3	34
		20	0	51·7	463·4		103·7	
		25	0	51·4	462·6		104·3	
		30	0	52·3	463·8		105·0	
		35	0	51·9	462·6		104·8	
		40	0	52·8	464·4		104·1	
		45	0	51·8	463·3		103·9	
		50	0	52·4	464·6		103·9	
		55	0	53·0	465·8		103·8	
	1	0	0	52·6	465·7	31	103·8	34
		5	0	54·2	463·6		103·8	
		10	0	54·0	465·4		104·0	
		15	0	53·7	464·6		104·0	
		20	0	53·2	463·3		104·1	
		25	0	53·6	464·3		104·1	
		30	0	54·2	464·3		104·8	
		35	0	54·3	463·2		104·7	
		40	0	53·6	463·7		104·7	
		45	0	53·5	463·0		104·8	
	2	45	0	57·4	466·1	31	105·1	33

JANUARY 18 and 19, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
18	2	50	0	57·4	465·0		104·8	
		55	0	57·2	465·0			
	3	0	0	57·4	464·2	31	104·5	33
		5	0	57·5	463·6		104·7	
		10	0	58·7	462·5		104·7	
		15	0	58·4	461·2		106·8	
		20	0	59·4	460·7		106·8	
		25	0	61·6	462·1		104·8	
		30	0	59·3	459·7		105·3	
		35	0	61·1	459·9		106·2	
		40	0	53·6	459·3		106·5	
		45	0	54·6	457·1		105·4	
		50	0	56·0	456·2		105·3	
		55	0	56·6	455·7		105·1	
	4	0	0	53·8	455·2	31	104·6	33
		5	0	54·1	452·0		104·6	
		10	0	55·2	454·3		104·7	
		15	0	55·2	454·5		104·4	
		20	0	55·2	454·5		104·4	
		25	0	54·3	454·1		105·3	
		30	0	54·6	451·7		105·2	
		35	0	54·2	450·5		104·6	
		40	0	54·3	451·8		104·6	
		45	0	54·8	449·7		104·5	
		50	0	53·6	448·7		104·6	
		55	0	54·0	449·7		105·0	
	5	0	0	53·9	450·5	31	105·0	33
		5	0	52·4	448·9		105·0	
		10	0	53·5	449·3		104·9	
		15	0	53·7	448·9		104·4	
		20	0	52·6	448·7		104·6	
		25	0	53·1	449·4		104·6	
		30	0	52·3	448·7		103·8	
		35	0	52·1	448·6		104·4	
		40	0	51·1	448·0		104·2	
		45	0	52·4	449·1		105·0	
		50	0	52·7	451·5		105·0	
		55	0	52·1	449·4		105·5	
	6	0	0	51·5	450·1	30	105·5	32
		5	0	51·3	450·0		105·0	
		10	0	51·6	451·2		105·0	
		15	0	52·4	454·3		105·6	
		20	0	51·2	452·8		105·7	
		25	0	51·2	451·3		105·7	
		30	0	51·7	452·9		105·6	
		35	0	51·1	453·6		106·3	
		40	0	50·7	453·9		106·3	
		45	0	51·1	453·6		106·4	
		50	0	50·6	454·5		106·8	
		55	0	51·3	453·9		106·8	
	7	0	0	51·1	455·0	30	106·6	32
		5	0	51·2	454·3		106·6	
		10	0	51·3	457·6		107·0	
		15	0	51·3	455·8		107·0	
		20	0	51·1	457·5		107·1	
		25	0	51·1	456·8		107·0	
		30	0	51·1	458·2		107·0	
		35	0	50·8	458·7		107·0	
		40	0	50·2	458·7		107·0	
		45	0	51·2	459·7		106·8	
		50	0	51·5	459·1			
		55	0	51·1	459·0		107·0	
	8	0	0	50·9	459·5	30	108·5	32
		5	0	50·4	459·4		107·5	
		10	0	51·2	460·5		107·0	
		15	0	51·1	461·7		106·9	
		20	0	51·4	461·4		106·2	

JANUARY 18 and 19, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
18	8	25	0	51·3	462·0		106·9	
		30	0	50·8	462·4		106·7	
		35	0	51·0	462·5		106·5	
		40	0	52·2	461·6		107·0	
		45	0	51·3	463·7		106·2	
		50	0	51·1	464·2		106·3	
		55	0	51·5	464·2		106·3	
	9	0	0	51·5	465·8	31	106·4	33
		5	0	51·1	465·5		106·4	
		10	0	51·2	466·3		106·2	
		15	0	50·5	467·7		106·2	
		20	0	51·9	467·7		106·2	
		25	0	51·9	468·4		106·2	
		30	0	51·0	469·7		105·8	
		35	0	50·9	469·6		105·8	
		40	0	51·3	468·6		105·8	
		45	0	51·5	470·0		105·8	
		50	0	51·3	470·0		105·8	
		55	0	51·4	470·2		105·8	
	10	0	0	51·4	471·0	31	105·8	33
		5	0	51·9	471·2		106·1	
		10	0	52·3	471·8		106·0	
		15	0	51·8	469·7		106·0	
		20	0	52·5	470·8		106·0	
		25	0	52·7	470·5		106·0	
		30	0	53·3	471·7		106·0	
		35	0	53·6	470·0		106·2	
		40	0	53·2	471·1		106·1	
		45	0	53·3	471·9		105·9	
		50	0	52·9	472·2		106·6	

Positions at the usual hours of observation, January 18 and 19.[a]

18	0	0	0	52·5	463·2	32	103·8	34
	2	0	0	54·8	463·1	31	106·5	33
	4	0	0	56·4	454·5	31	104·7	33
	6	0	0	51·8	450·2	30	105·5	32
	8	0	0	51·0	459·7	30	107·0	32
	10	0	0	52·5	470·6	31	105·8	33
	12	0	0	53·7	472·8	31	106·0	32
	14	0	0	53·5	473·4	31	106·0	32
	16	0	0	52·9	475·3	29	107·0	31
	18	0	0	53·2	474·5	28	107·2	30
	20	0	0[b]	58·1	475·0	29	106·3	30
	22	0	0	56·6	482·0	28	108·3	29
19	0	0	0	55·4	485·4	27	108·7	30
	2	0	0	52·3	497·4	27	108·6	29
	4	0	0	55·3	481·7	28	106·1	30
	6	0	0	41·7	448·5	29	107·0	30
	8	0	0	47·0	460·8	30	108·1	31
	10	0	0	48·5	465·6	32	107·8	32
	12	0	0	55·4	469·2	32	114·8	33
	14	0	0	60·0	443·1	33	114·7	33
	16	0	0	55·6	447·7	33	113·5	33
	18	0	0	54·3	444·2	33	117·8	33
	20	0	0	53·8	448·1	32	117·6	33
	22	0	0	53·2	448·1	32	115·1	33

The Mean Positions at the same hours during the Month are given in page 32.

JANUARY 18 and 19, 1841.

ST. HELENA { Decl. 1 Scale Division = 0′·71; H. F. k = ·00021; q = ·0003

Positions at the usual hours of observation, January 18 and 19.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
18	0	0	0	54·9	24·6	66		
	2	0	0	55·0	24·3	68		
	3	0	0	57·0	23·9	68		
	4	0	0	53·0	22·6	68		
	5	0	0	53·2	22·0	68		
	6	0	0	54·2	21·2	69		
	8	0	0	55·2	19·8	68		
	10	0	0	56·0	19·9	67		
	11	0	0	56·1	19·9	67		
	12	0	0	55·9	19·6	67		
	13	0	0	55·2	19·9	67		
	14	0	0	53·2	20·0	66		
	15	0	0	54·9	20·2	66		
	16	0	0	55·1	20·8	66		
	18	0	0	53·8	20·4	66		
	19	0	0	51·8	23·8	66		
	20	0	0	50·5	25·0	66		
	21	0	0	50·2	25·0	66		
	22	0	0	54·2	25·0	66		
	23	0	0	55·9	26·8	66		
19	0	0	0	56·0	25·2	66		
	2	0	0	53·5	25·3	67		
	3	0	0	51·9	26·8	67		
	4	0	0	51·8	24·0	68		
	5	0	0	51·7	19·4	68		
	6	0	0	50·0	15·8	68		
	8	0	0	52·2	16·0	67		
	10	0	0	53·0	18·0	67		
	11	0	0	52·9	9·0	67		
	12	0	0	51·8	9·6	66		
	13	0	0	51·5	9·1	66		
	14	0	0	51·2	14·8	66		
	15	0	0	51·5	14·8	66		
	16	0	0	50·8	14·5	66		
	18	0	0	50·0	15·0	66		
	19	0	0	50·0	16·5	66		
	20	0	0	49·0	17·0	66		
	21	0	0	48·6	18·0	66		
	22	0	0	49·8	21·2	66		
	23	0	0	48·9	23·2	66		

The Mean Positions at the same hours during the Month are given in pages 32 and 33.

VAN DIEMEN ISLAND { Decl. 1 Scale Division = 0′·71; H. F. k = ·0003; q =; V. F. k =; q =

Extra observations.

The V. F. was observed at 2^m. 30^s. before, and the H. F. 2^m. 30^s. after the times specified.

1911	10	0	41·9	6·8	68			
	15	0	43·3					
	20	0	42·2	7·8		8·8	68	
	25	0	42·1					
	30	0	39·9	6·8		7·8		

JANUARY 18 and 19, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
19	11	35	0	38·3				
		40	0	38·3	5·1		7·0	
		45	0	40·2				
		50	0	44·6	6.7		7·8	
		55	0	47·8				
	12	10	0	45·3	9·7	69		
		15	0	45·3				
		20	0	43·9	8·9		6·0	68
		25	0	42·5				
		30	0	41·3	9·4		5·4	
		35	0	42·1				
		40	0	42·3	8·4		6·9	
		45	0	41·0				
		50	0	42·8	9·3		5·1	
	13	10	0	40·0	8·5	69		
		15	0	41·8				
		20	0	42·6	8·6		4·3	69
		25	0	40·4				
		30	0	39·0			3·6	

Positions at the usual hours of observation, January 18 and 19.

18	0	0	0	40·2	9·7	77	3·3	75
	1	0	0	39·8	10·1		3·4	
	2	0	0	38·0	11·1	75	3·3	73
	3	0	0	38·6	10·6		3·5	
	4	0	0	38·5	11·4	73	4·4	72
	5	0	0	38·1	12·5		4·5	
	6	0	0	37·8	13·0	70	4·5	70
	7	0	0	37·1	14·0		5·2	
	8	0	0	35·7	14·5	68	5·1	67
	9	0	0	33·3	15·1		5·1	
	10	0	0	30·6	14·4	67	5·0	66
	11	0	0	29·9	13·8		4·8	
	12	0	0	30·5	12·0	68	4·7	67
	13	0	0	32·8	10·9		4·0	
	14	0	0	36·7	9·7	74	4·5	73
	15	0	0	41·6	9·0		3·0	
	16	0	0	44·7	8·7	79	3·0	78
	17	0	0	46·5	10·0		2·0	
	18	0	0	46·3	11·9	82	2·3	77
	19	0	0	45·3	10·6		2·3	
	20	0	0	45·9	15·1	81	1·1	77
	21	0	0	44·3	10·0		3·7	
	22	0	0	43·9	9·8	78	3·9	76
	23	0	0	43·5	13·0		2·3	
19	0	0	0	42·3	12·4	76	3·2	74
	1	0	0	37·1	10·8		3·3	
	2	0	0		9·8	74	5·5	74
	3	0	0	39·0	11·2		4·5	
	4	0	0	33·1	11·0	73	4·5	72
	5	0	0	32·2	13·6		1·7	
	7	0	0	35·5	12·5		6·1	
	8	0	0	34·5	14·4	68	5·4	67
	9	0	0	35·0	14·5		5·6	
	10	0	0	32·5	10·8	66	5·4	67
	11	0	0	45·1	8·2		9·0	
	12	0	0	48·5	8·3	69	8·0	68
	13	0	0	44·4	10·1		4·9	
	14	0	0	44·5	8·5	70	4·6	69
	15	0	0	48·8	9·1		3·8	
	16	0	0	49·3	11·3	70	3·0	70

[a] "Although the abstract does not show any great change in the readings of the magnetometers, the magnets were, nevertheless, much disturbed; sometimes vibrating considerably, and at other times suddenly becoming perfectly quiet. The partial results were during the whole series very irregular."

[b] 18^d. 20^h. 0^m. Faint auroral light in the North.

January 18 and 19, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
19	17	0	0	47·7	12·6		3·9	
	18	0	0	46·8	12·4		4·8	71
	19	0	0	43·3	12·6	72	4·5	
	20	0	0	42·2	10·9		5·2	71
	21	0	0	40·9	10·6	72	5·8	
	22	0	0	40·8	10·8		4·3	69
	23	0	0	39·2	12·8	70	5·2	

The Mean Positions at the same hours during the Month, are given in page 33.

January 25, 26, and 27, 1841.

Toronto { Decl. 1 Scale Division = 0′·72
H. F. k = ·000076; q = ·0002
V. F. k = ·00009; q = ·00018

Extra observations.

The V. F. was observed at 1^m. 30^s. before, and the H. F. 2^m. after the times specified

25	16	15	0	96·4	417·7	41	92·1	42
		20	0	94·9	407·9		90·0	
		25	0	94·0	404·6		89·5	
		30	0	92·1	401·4		88·5	
		35	0	87·8	392·1		88·2	
		40	0	85·2	389·5		88·6	
		45	0	80·0	389·2		90·6	
		50	0	73·0	388·5		91·6	
		55	0	65·6	390·7		95·5	
	17	0	0	66·2	402·9	41	96·8	42
		5	0	65·4	413·0		96·4	
		10	0	63·7	419·2		94·9	
26	4	10	0	57·2	447·6	40	95·4	40
		15	0	57·6	443·9		95·4	
		20	0	59·1	447·6		95·6	
		25	0	58·0	448·3		95·5	
		30	0	57·3	446·0		95·3	
		35	0	56·9	445·1		95·5	
		40	0	58·8	448·0		95·2	
		45	0	56·1	441·9		95·2	
		50	0	58·3	446·5		94·9	
		55	0	56·3	437·7		95·5	
	5	0	0	56·3	434·5	40	95·1	40
		5	0	56·6	435·5		94·6	
		10	0	55·5	434·9		94·6	
		15	0	53·4	438·7		95·3	
		20	0	53·2	431·6		95·5	
		25	0	51·3	428·4		94·5	
		30	0	51·5	429·4		94·5	
		35	0	52·0	424·9		94·9	
		40	0	51·5	428·6		95·0	
		45	0	50·9	425·6		95·1	
		50	0	51·5	426·5		95·1	
27	3	0	0	58·5	437·9	45	92·8	45
	5	0	0	55·7	423·8	45	89·9	45
	7	0	0	48·0	416·7	45	91·1	45
	9	0	0	45·3	425·8	46	92·2	46
	13	0	0	52·3	422·5	47	96·6	46
	15	0	0	63·0	432·0	45	93·2	45
	17	0	0	55·8	430·6	45	93·6	45
	19	0	0	57·1	428·9	45	83·9	45
	21	0	0	57·2	430·8	45	87·7	45

January 25, 26, and 27, 1841.

Positions at the usual hours of observation, January 25, 26, and 27.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
25	0	0	0	50·7	450·4	40	94·9	41
	2	0	0	55·0	444·0	40	95·5	40
	4	0	0	53·1	449·4	40	95·2	40
	6	0	0	49·1	429·5	41	92·9	41
	8	0	0	48·5	436·9	42	93·2	42
	10	0	0	50·1	439·7	42	93·3	42
	12	0	0	53·0	442·8	41	93·8	42
	14	0	0	54·2	440·9	41	94·3	42
	16	0	0	80·3	413·2	41	94·4	42
	18	0	0	67·5	420·3	42	91·9	43
	20	0	0	52·6	433·0	42	94·9	42
	22	0	0	53·2	422·2	41	93·8	42
26	0	0	0	56·1	451·7	40	93·0	41
	2	0	0	52·1	448·9	38	97·5	40
	4	0	0	58·3	445·7	40	95·4	40
	6	0	0	51·4	418·4	40	95·0	41
	8	0	0	44·5	420·8	41	99·5	41
	10	0	0	44·1	441·5	41	98·6	41
	12	0	0	50·2	440·0	41	97·5	41
	14	0	0	57·9	431·9	41	97·0	41
	16	0	0	59·9	449·7	41	91·4	42
	18	0	0	57·9	431·7	42	93·2	42
	20	0	0	52·9	432·3	42	92·6	43
	22	0	0	58·7	420·4	43	85·8	43
27	0	0	0	48·2	435·6	43	88·8	44
	2	0	0	58·6	438·7	43	94·1	44
	4	0	0	57·6	434·6	45	90·1	45
	6	0	0	51·3	416·2	45	88·9	45
	8	0	0	47·3	419·0	46	89·1	45
	10	0	0	47·2	408·2	46	94·6	46
	12	0	0	46·7	411·5	46	91·8	46
	14	0	0	60·5	449·9	46	88·7	47
	16	0	0[a]	56·3	420·1	45	93·0	45
	18	0	0	53·2	426·1	45	90·8	45
	20	0	0	55·7	431·2	44	82·7	45
	22	0	0	55·2	423·1	44	86·0	45

The Mean Positions at the same hours during the Month are given in page 32.

St. Helena { Decl. 1 Scale Division = 0′·71
H. F. k = ·00021; q = ·0003

Positions at the usual hours of observation, January 25, 26, and 27.

25	0	0	0	51·1	28·9	67		
	2	0	0	53·1	28·1	67		
	3	0	0	53·5	26·0	68		
	4	0	0	54·1	26·0	68		
	5	0	0	54·5	25·0	69		
	6	0	0	52·2	21·0	68		
	8	0	0	53·0	20·9	68		
	10	0	0	54·0	21·2	67		
	11	0	0	54·3	21·7	67		
	12	0	0	54·4	22·4	66		
	13	0	0	53·5	23·0	66		
	14	0	0	53·1	23·9	66		
	15	0	0	53·0	25·3	66		
	16	0	0	51·5	25·7	66		
	18	0	0	52·9	21·6	65		
	19	0	0	51·6	21·0	66		
	20	0	0	49·1	21·0	65		

January 25, 26, and 27, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
25	21	0	0	48·9	22·0	66		
	22	0	0	50·8	27·0	65		
	23	0	0	52·1	27·0	66		
26	0	0	0	52·8	28·4	66		
	2	0	0	54·1	25·6	67		
	3	0	0	51·5	24·9	67		
	4	0	0		23·9	67		
	5	0	0		23·5	68		
	6	0	0	52·4	22·7	68		
	8	0	0	52·8	18·9	67		
	10	0	0	52·6	16·7	67		
	11	0	0	52·8	18·1	67		
	12	0	0	52·7	18·2	67		
	13	0	0	51·9	20·5	66		
	14	0	0	51·1	21·1	66		
	15	0	0	51·1	22·0	66		
	16	0	0	51·1	22·9	66		
	18	0	0	50·9	24·0	66		
	19	0	0	50·0	22·9	66		
	20	0	0	48·3	23·9	66		
	21	0	0	47·0	24·1	66		
	22	0	0	48·1	23·4	65		
	23	0	0	50·1	23·0	66		
27	0	0	0	51·1	23·5	67		
	2	0	0	52·7	25·0	68		
	3	0	0	51·4	26·2	69		
	4	0	0	51·6	27·5	69		
	5	0	0	52·1	24·2	69		
	6	0	0	52·6	23·6	69		
	8	0	0	53·4	20·5	68		
	10	0	0	52·4	18·9	68		
	11	0	0	52·6	18·9	68		
	12	0	0	53·4	16·8	67		
	13	0	0	53·6	17·4	67		
	14	0	0	54·0	19·6	67		
	15	0	0	55·1	22·0	67		
	16	0	0	53·1	21·0	67		
	18	0	0	52·2	21·3	66		
	19	0	0	51·9	21·3	67		
	20	0	6	50·4	21·0	66		
	21	0	0		22·2	67		
	22	0	0	50·7	23·5	67		
	23	0	0	51·2	22·5	67		

The Mean Positions at the same hours during the Month are given in pages 32 and 33.

Van Diemen Island { Decl. 1 Scale Division = 0′·71
H. F. k = ·0003; q =
V. F. k = ; q =

Positions at the usual hours of observation, January 25, 26, and 27.

25	0	0	0	40·5	11·4	76	3·7	73
	1	0	0	39·9	12·6		2·5	
	2	0	0	36·5	15·6	74	0·6	73
	3	0	0	36·6	14·4		0·5	
	4	0	0	35·2	12·8	73	1·6	72
	5	0	0	36·0	13·5		2·3	
	6	0	0	32·6	14·6	71	1·4	70
	7	0	0	32·3	15·0		1·6	
	8	0	0	33·1	15·8	71	1·9	70
	9	0	0	34·3	14·5		2·5	
	10	0	0	31·6	14·5	69	3·2	70

[a] From 27^d. 16^h. to 27^d. 18^h. the sky was partially clouded, and a faint auroral light was visible in the North; at 27^d. 19^h. clouds spread around the horizon, and at 27^d. 21^h. the sky became heavily overcast. Previous to 27^d. 16^h. the sky was densely clouded.

JANUARY 25, 26, and 27, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
25	11	0	0	29·7	12·9		4·0	
	12	0	0	30·9	10·8	68	4·4	67
	13	0	0	34·5	10·7		4·5	
	14	0	0	41·8	12·2	68	4·0	67
	15	0	0	44·4	16·3		2·8	
	16	0	0	48·2	17·3	67	3·9	66
	17	0	0	48·4	13·4		6·1	
	18	0	0	48·0	16·7	68	4·5	66
	19	0	0	45·1	15·7		4·4	
	20	0	0	43·1	16·3	69	3·9	66
	21	0	0	41·3	16·1		5·2	
	22	0	0	34·6	19·4	67	3·4	65
	23	0	0	39·0	15·7		5·7	
26	0	0	0	38·0	15·6	64	6·0	62
	1	0	0	32·2	21·1		3·9	
	2	0	0	38·5	18·5	63	4·4	
	3	0	0	38·1	18·2		5·0	
	4	0	0	40·9	18·1	63	5·3	62
	5	0	0	40·1	18·8		5·3	
	6	0	0	40·1	17·6	60	5·8	60
	7	0	0	42·1	17·8		5·1	
	8	0	0	38·5	19·3	59	3·4	59
	9	0	0	32·9	20·5		2·5	
	10	0	0	29·9	15·2	59	2·7	59
	11	0	0	29·0	18·5		3·1	
	12	0	0	29·1	16·7	61	3·4	62
	13	0	0	33·4	15·8		3·7	
	14	0	0	38·4	13·7	65	3·9	66
	15	0	0	42·1	13·9		3·6	
	16	0	0	47·0	12·5	70	4·7	70
	17	0	0	48·2	12·6		4·5	
	18	0	0	49·9	14·1	72	4·0	70
	19	0	0	47·0	18·2		3·4	
	20	0	0	44·7	13·0	72	5·4	69
	21	0	0	42·7	17·2		3·2	
	22	0	0	36·7	15·0	72	3·2	69
	23	0	0	37·9	13·9		4·5	
27	0	0	0	34·8	13·7	69	4·6	67
	1	0	0	37·6	18·0		2·1	
	2	0	0	36·7	19·3	67	2·5	65
	3	0	0	39·0	16·2		4·6	
	4	0	0	38·3	15·8	66	5·3	64
	5	0	0	34·0	17·1		5·6	
	6	0	0	40·2	17·6	63	5·7	62
	7	0	0	40·3	18·5		4·5	
	8	0	0	37·4	18·0	62	5·2	61
	9	0	0	38·4	19·0		5·4	
	10	0	0	43·1	15·9	60	8·3	59
	11	0	0	36·4	15·7		5·7	
	12	0	0	39·5	13·5	63	5·3	63
	13	0	0	41·3	13·6		4·4	
	14	0	0	40·4	10·6	70	3·8	69
	15	0	0	44·9	8·7		4·7	
	16	0	0	46·5	9·8	75	3·8	72
	17	0	0	48·4	11·1		2·9	
	18	0	0	48·0	16·8	76	1·3	73
	19	0	0	44·3	10·5		4·5	
	20	0	0	40·7	13·6	76	2·9	74
	21	0	0	42·3	12·5		2·9	
	22	0	0	40·2	12·1	75	3·6	73
	23	0	0	35·1	11·3		3·5	

The Mean Positions at the same hours during the Month are given in page 33.

FEBRUARY 7, 1841.

VAN DIEMEN ISLAND { Decl. 1 Scale Division = 0′·71
H. F. k = ·0003; q =
V. F. k = ; q =

Extra observations.[a]

The V. F. was observed at 2^m. 30^s. before, and the H. F. 2^m. 30^s. after the times specified.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
7	3	5	0	20·6				
		10	0	19·9	60·2	64		
		15	0	21·3			94·2	
		20	0	21·6	58·6			
		25	0	20·1			94·5	
		30	0	15·5	56·4			
		35	0	13·8			93·9	
		40	0	16·0	60·4			
		45	0	20·9			92·9	
		50	0	23·0	60·9			
		55	0	23·3			92·6	
	4	5	0	22·7				64
		15	0	22·3				
		25	0[b]	21·4			93·1†	
		35	0	22·8				
		45	0	24·3			94·0†	
		55	0	26·0				
	5	10	0	37·4				
		25	0	40·2			94·7†	
		35	0	41·7				
		40	0	40·9	64·7		90·6	
		45	0	38·7				
		50	0	35·3			88·5	
	6	10	0	29·2	63·9	63		63
		15	0	27·5				
		20	0	29·2	64·2		89·6	
		25	0	28·7				
		30	0	29·6	64·9		91·1	
		35	0	30·4				
		40	0	30·4	65·4		92·0	
		45	0	30·9				
		50	0	32·2	64·4		92·9	
	7	5	0	34·6				
		10	0	34·5	66·2		94·9	
		15	0	35·1				
		20	0	35·3	65·8	63	94·7	62
	9	10	0	26·2	68·1	63		
		15	0	26·8				
		20	0	24·9	68·8		95·1	
		25	0	25·6				
		30	0	25·3	67·8		95·5	
		35	0	25·4				
		40	0	26·4	67·5		95·9	
		45	0	25·0				
		50	0	24·2				
	10	10	0	23·9	63·8	63	96·1	62
		15	0	26·7				
		20	0	32·6	64·9		98·0	
		25	0	34·6				
		30	0	35·4	64·2		98·5	
		35	0	36·7				
		40	0	35·2[c]	62·8		98·0	
		45	0	40·3				
		50	0	40·3	64·1		98·9	
	11	10	0	43·4	66·1			

FEBRUARY 7, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
7	11	15	0	40·5				
		20	0	37·3	59·4		95·9	
		25	0	27·0				
		30	0	32·0	63·0		95·4	
		35	0	32·9				
		40	0	32·0	64·5		94·3	
		45	0	33·4				
		50	0	29·3	58·2		93·2	64
	12	10	0	32·2	62·4	64		
		15	0	30·2				
		20	0	29·2	62·3		92·8	
		25	0	29·4				
		30	0	31·0	62·4		92·0	
		35	0	31·6				
		40	0	31·6	61·0		92·2	
		45	0	30·6				
		50	0	30·8	60·6		91·5	
	13	10	0	33·3	59·0			
		15	0	32·5				
		20	0	31·4	59·1		92·7	
		25	0	31·2				
		30	0	31·2	58·3		92·6	
		35	0	32·8				
		40	0	34·5	59·0		93·6	
		45	0	36·3				
		50	0	37·5		69	94·7	69

Positions at the usual hours of observation, February 7.

7	3	0	0[c]	24·6	60·5		95·0	
	4	0	0	23·4	61·0	64	92·8	64
	5	0	0	26·0	56·5		94·7	
	6	0	0	33·0	63·9	63	88·9	63
	7	0	0	34·8	65·0		94·8	
	8	0	0	32·0	66·6	62	95·5	61
	9	0	0	27·8	67·8		95·4	
	10	0	0	22·5	67·9	63	97·9	62
	11	0	0	39·0	63·5		98·2	
	12	0	0	27·7	60·2	64	94·9	64
	13	0	0	31·7	59·5		92·2	
	14	0	0	38·7	59·3	69	94·6	69
	15	0	0	45·3	59·9		95·2	
	16	0	0	48·3	60·2	72	95·7	71
	17	0	0	50·4	62·1		95·6	
	18	0	0	49·0	63·2	75	95·0	73
	19	0	0	48·8	62·4		94·0	
	20	0	0	45·8	61·8	77	93·7	76
	21	0	0	42·6	61·1		92·8	
	22	0	0	42·5	61·2	76	93·3	73
	23	0	0	41·9	62·8		94·2	

Mean Positions at the same hours during the Month.

	0	0	0	40·9	69·9	69	94·9	68
	1	0	0	39·6	70·1		94·7	
	2	0	0	38·7	70·3	68	94·7	67
	3	0	0	37·8	69·0		94·7	
	4	0	0	38·9	69·4	67	94·9	66
	5	0	0	38·2	69·6		94·8	
	6	0	0	38·4	70·1	66	95·8	66
	7	0	0	38·7	70·8		95·0	
	8	0	0	38·1	70·6	65	95·4	63
	9	0	0	36·0	70·8		95·5	

[a] The ten hours of the 7th of February, during which these extra observations were made at Van Diemen Island, formed part of Sunday at Toronto and St. Helena; there are consequently no comparative observations at those stations.

[b] The three observations marked thus † were taken 5^m. before the times specified.

[c] The hours of 0, 1, and 2, on February 7th, fell on Sunday at Van Diemen Island.

February 7, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
	10	0	0	34·8	70·0	64	95·7	63
	11	0	0	35·8	69·0		96·0	
	12	0	0	35·2	67·5	65	95·7	64
	13	0	0	38·1	67·0		95·9	
	14	0	0	42·5	66·5	68	95·7	67
	15	0	0	44·8	67·3		95·5	
	16	0	0	46·9	67·9	70	95·3	69
	17	0	0	47·7	68·7		94·9	
	18	0	0	47·2	68·9	72	94·8	69
	19	0	0	46·1	68·8		94·8	
	20	0	0	44·3	68·7	73	94·5	70
	21	0	0	43·3	68·3		94·8	
	22	0	0	42·3	69·0	71	94·6	69
	23	0	0	42·0	69·7		94·7	

February 8 and 9, 1841.

Toronto { Decl. 1 Scale Division = 0′·72 ; H. F. k = ·000076 ; q = ·0002 ; V. F. k = ·00009 ; q = ·00018

Extra observations.

The V. F. was observed at 1^m. 30^s. before, and the H. F. 2^m. after the times specified.

9	2	30	0	47·0	453·0	40	107·6	41
		35	0	46·3	449·5		105·9	
		40	0	51·2	445·4		108·1	
		45	0	53·9	441·9		108·5	
		50	0	54·7	444·9		110·6	
		55	0	53·8	447·1		112·9	
	3	0	0	54·5	446·0	41	113·8	41
		5	0	51·1	446·3		113·2	
		10	0	46·6	441·8		114·1	
		15	0	51·6	430·7		114·0	
		20	0	54·0	430·6		114·3	
		25	0	54·7	429·2		115·6	
		30	0	55·1	427·1		116·1	
		40	0	54·9	430·5		117·8	
		45	0	54·8	429·1		118·1	
		50	0	53·5	430·3		119·4	
		55	0	55·2	427·2		119·4	

Positions at the usual hours of observation, from February 8th, 0^h. to February 9th, 22^h.

8	0	0	0	50·5	433·0	37	124·5	39
	2	0	0	53·5	444·9	37	130·2	38
	4	0	0	53·9	422·3	38	124·4	39
	6	0	0	42·8	412·0	40	124·7	40
	8	0	0	45·5	425·0	41	122·9	41
	10	0	0	48·3	430·6	42	122·1	42
	12	0	0	52·2	426·2	42	123·4	42
	14	0	0	50·5	429·8	42	123·2	42
	16	0	0	50·3	431·1	41	122·5	41
	18	0	0	48·3	434·1	40	122·9	41
	20	0	0	47·7	444·2	40	123·6	40
	22	0	0	52·4	449·4	40	109·5	41
9	0	0	0	72·9	462·7	40	108·3	42
	2	0	0	25·0	423·2	40	108·0	41
	4	0	0	54·9	422·1	41	118·1	41
	6	0	0	45·7	400·5	42	120·9	42
	8	0	0	40·5	395·2	42	123·8	42

February 8 and 9, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
9	10	0	0	50·0	405·5	42	128·1	42
	12	0	0	44·3	417·4	42	124·1	43
	14	0	0	50·7	433·0	41	121·9	42
	16	0	0	50·4	433·0	41	120·9	42
	18	0	0	49·0	435·7	41	120·8	42
	20	0	0	48·3	438·0	40	122·7	41
	22	0	0	51·1	441·8	40	123·3	40
Mean Positions at the same hours during the Month.[a]								
	0	0	0	55·0	453·4	38	124·2	39
	2	0	0	56·3	452·6	38	125·7	38
	4	0	0	55·6	442·6	39	125·0	38
	6	0	0	49·8	427·8	40	125·3	39
	8	0	0	46·7	430·6	41	124·9	39
	10	0	0	48·0	441·0	44	125·7	40
	12	0	0	50·6	448·9	41	125·1	41
	14	0	0	53·6	449·0	41	125·6	40
	16	0	0	56·5	449·2	41	125·1	40
	18	0	0	54·3	439·6	40	124·5	40
	20	0	0	55·5	443·1	39	123·7	39
	22	0	0	53·5	446·5	39	123·3	39

St. Helena { Decl. 1 Scale Division = 0′·71 ; H. F. k = ·0002 ; q = ·0003

Positions at the usual hours of observation, from February 8th, 0^h., to February 9th, 23^h.

8	0	0	0	46·9	61·7	69
	2	0	0	47·1	58·9	70
	3	0	0	43·1	57·2	71
	4	0	0	38·1	54·8	72
	5	0	0	37·4	53·0	72
	6	0	0	36·6	53·4	73
	8	0	0	39·2	54·4	71
	10	0	0	40·8	54·9	70
	11	0	0	40·6	54·9	70
	12	0	0	41·5	56·0	69
	13	0	0	41·0	55·2	70
	14	0	0	40·8	55·7	69
	15	0	0	40·5	56·2	69
	16	0	0	40·2	55·9	69
	18	0	0	39·0	57·7	69
	19	30	0	37·2	60·4	69
	20	0	0	35·1	66·8	69
	20	30	0	33·3	65·1	69
	22	0	0	37·0	74·2	68
	23	0	0	40·7	79·0	68
9	0	0	0	40·8	72·5	69
	2	0	0	42·1	59·0	70
	3	0	0	38·2	55·9	71
	4	0	0	38·0	55·1	71
	5	0	0	37·1	54·0	72
	6	0	0	37·8	53·1	71
	8	0	0	38·5	49·2	70
	10	0	0	40·2	55·2	69
	11	0	0	40·9	52·3	69
	12	0	0	40·9	54·8	69
	13	0	0	41·1	56·1	69
	14	0	0	40·9	55·6	69
	15	0	0	41·0	56·6	69
	16	0	0	40·3	57·1	69

February 8 and 9, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
9	19	30	0	38·8	59·0	68		
	20	0	0	37·5	59·9	68		
	20	30	0	36·9	60·1	69		
	22	0	0	38·0	62·4	69		
	23	0	0	38·6	64·2	69		
Mean Positions at the same hours during the Month.[b]								
	0	0	0	42·4	67·2	69		
	2	0	0	41·6	65·3	70		
	3	0	0	40·0	63·9	70		
	4	0	0	38·8	62·2	71		
	5	0	0	38·6	61·4	71		
	6	0	0	38·8	60·3	71		
	8	0	0	39·7	58·5	70		
	10	0	0	40·7	59·4	70		
	11	0	0	41·0	59·5	70		
	12	0	0	41·0	59·8	69		
	13	0	0	40·6	60·0	69		
	14	0	0	40 7	59·8	69		
	15	0	0	40·5	59·4	69		
	16	0	0	40·1	60·3	69		
	18	0	0	39·5	60·5	69		
	19	30	0	37·9	61·8	69		
	20	0	0	36·6	62·5	69		
	20	30	0	36·2	63·5	69		
	22	0	0	38·7	65·6	69		
	23	0	0	40·1	67·0	69		

Van Diemen Island { Decl. 1 Scale Division = 0′·71 ; H. F. k = ·0003 ; q = ; V. F. k = ; q =

Extra observations.

The V. F. was observed at 2^m. 30^s. before, and the H. F. 2^m. 30^s. after the times specified.

9	1	10	0	27·9	65·5	69		
		15	0	24·9				
		20	0	26·3	63·4		95·6	69
		25	0	26·4				
		30	0	18·2	56·0		95·6	
		35	0	7·6				
		40	0	4·0			96·0	
	2	12	30	24·4				69
		17	30	27·2	59·5	69	97·3	
		22	30	29·0				
		27	30	29·1	58·7		98·4	
		32	30	28·2				
		37	30	28·0	59·2		98·1	
		42	30	29·0				
		47	30	29·5	60·0		99·0	
	3	10	0	34·3	60·6	68		
		15	0	37·2			97·1	68

Positions at the usual hours of observation, from February 8th, 8^h. to February 9th, 23^h.

8	8	0	0	38·3	67·2	66	95·3	65
	9	0	0	37·1	67·7		95·2	
	10	0	0	35 6	67·4	66	95·0	65
	11	0	0	33·3	65·3		95·7	
	12	0	0	32·9	62·9	67	96·1	67
	13	0	0	36·4	61·8		96·2	

[a] The mean positions of the H. F. magnet are between the 1st and 11th of February, inclusive; those of the V. F. between the 8th and 18th of February, inclusive.

[b] The connexion of the daily observations of the H. F. at St. Helena, with the mean positions during the month, cannot be considered as strictly determined prior to July 9th, 1841, owing, first, to the gradual stretching of the wires, and secondly, to the suspension-screw not having been tightly screwed down.

February 8 and 9, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
8	14	0	0	40·7	62·2	71	95·4	71
	15	0	0	44·0	62·5		95·1	
	16	0	0	47·2	62·8	75	95·3	74
	17	0	0	49·0	64·8		95·1	
	18	0	0	49·6	66·4	75	95·0	73
	19	0	0	49·8	68·3		94·7	
	20	0	0	50·6	72·7	73	93·3	72
	21	0	0	49·8	65·5		98·0	
	22	0	0	46·1	73·3	72	94·8	69
	23	0	0	43·2	70·7		97·3	
9	0	0	0	42·0	67·8	70	99·3	68
	1	0	0	29·2	64·9		95·7	
	2	0	0	21·9	65·8	69	95·3	69
	3	0	0	32·3	61·0		98·8	
	4	0	0	41·1	63·5	68	99·5	66
	5	0	0	40·2	64·0		99·6	
	6	0	0	40·0	65·4	66	99·8	65
	7	0	0	37·3	65·2		99·7	
	8	0	0	36·0	65·4	65	98·8	64
	9	0	0	33·4	64·5		97·6	
	10	0	0	30·1	63·7	63	96·8	63
	11	0	0	33·4	64·4		96·5	
	12	0	0	31·9	64·3	68	95·1	66
	13	0	0	32·0	64·0		94·6	
	14	0	0	37·0	62·3	72	95·5	71
	15	0	0	39·9	61·5		95·3	
	16	0	0	43·6	61·3	77	95·1	76
	17	0	0	46·3	62·3		94·8	
	18	0	0	46·5	64·0	79	94·1	76
	19	0	0	45·1	64·8		94·2	
	20	0	0	43·2	64·9	79	94·5	75
	21	0	0	42·5	64·6		94·4	
	22	0	0	42·5	64·6	77	95·4	75
	23	0	0	42·1	65·9		94·4	

The Mean Positions at the same hours during the Month are given in pages 36 and 37.

February 15 and 16, 1841.

Toronto { Decl. 1 Scale Division = 0′·72
H. F. k = ·000076; q = ·0002
V. F. k = ·00009; q = ·00018

Extra observations.

The V. F. was observed at 1^m. 30^s. before, and the H. F. 2^m. after the times specified.

15	2	30	0	51·9	529·2	30	128·8	31
		35	0	48·3	518·1		128·4	
		40	0	49·9	519·3		128·5	
		45	0	47·4	513·6		126·9	
		50	0	45·0	506·7		126·9	
		55	0	43·0	504·1		126·9	
	3	0	0	41·0	495·8	31	126·1	32
		5	0	41·1	493·1		128·5	
		10	0	42·7	492·7		128·6	
		15	0	46 3	491·2		128·2	
		20	0	48·4	489·3		128·3	
		25	0	48·6	485·1		128·4	
		30	0	50·8	484·8		128·8	
		35	0	50·6	479·1		128·8	

February 15 and 16, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
15	3	40	0	49·8	480·9		128·9	
		45	0	45·9	478·7		129·0	
		50	0	44·2	481·1		129·4	
		55	0	47·4	489·3		128·8	
	4	5	0	47·2	504·5	31	128·6	32
		10	0	49·0	488·2		128·1	
		15	0	46·1	486·4		127·3	
		20	0	47·6	499·1		128·4	
		25	0	48·8	501·3		128·6	
		30	0	49·2	503·5		128·8	
		35	0	49·9	507·4		129·0	
		40	0	50·7	503·9		128·6	
		45	0	49·9	497·4		128·6	
		50	0	49·8	499·8		128·5	

Positions at the usual hours of observation, from February 14th, 18^h. to February 16th, 22^h.[a]

14	18	0	0	53·3	503·4	30	134·9	31
	20	0	0	54·1	503·2	30	133·0	31
	22	0	0	55·8	515·6	29	133·7	31
15	0	0	0	56·0	511·0	29	132·5	31
	2	0	0	41·7	495·5	29	127·5	30
	4	0	0	48·6	492·9	30	127·4	31
	6	0	0	53·9	489·4	32	128·4	33
	8	0	0	44·9	460·7	35	131·5	34
	10	0	0	40·2	468·2	38	135·9	36
	12	0	0	48·7	474·5	38	132·2	37
	14	0	0	59·1	465·4	37	125·5	37
	16	0	0	57·1	472·6	37	131·5	37
	18	0	0	60·6	476·4	36	125·6	36
	20	0	0	59·2	471·0	35	126·0	36
	22	0	0	49·5	477·1	35	121·1	36
16	0	0	0	58·6	484·5	35	124·4	36
	2	0	0	59·3	485·5	34	129·5	35
	4	0	0	53·4	463·2	35	126·7	36
	6	0	0	46·7	452·0	38	125·3	37
	8	0	0	45·3	463·7	39	127·0	38
	10	0	0	41·9	456·8	39	127·3	38
	12	0	0	47·0	474·6	39	128·2	39
	14	0	0	50·8	473·0	40	128·2	39
	16	0	0	66·8	470·0	40	124·5	40
	18	0	0	63·6	459·5	41	119·2	41
	20	0	0	56·0	476·3	41	113·0	41
	22	0	0	56·9	467·7	41	120·2	41

Mean Positions at the same hours during the Month.[b]

	0	0	0	55·0	473·0	38	124·2	39
	2	0	0	56·3	473·3	38	125·7	38
	4	0	0	55·6	457·7	39	125·0	38
	6	0	0	49·8	456·7	40	125·3	39
	8	0	0	46·7	457·7	41	124·9	39
	10	0	0	48·0	462·5	41	125·7	40
	12	0	0	50·6	463·2	41	125·1	41
	14	0	0	53·6	458·0	41	125·6	40
	16	0	0	56·5	463·1	41	125·1	40
	18	0	0	54·3	465·3	40	124·5	40
	20	0	0	52·5	468·2	39	123·7	39
	22	0	0	53·5	470·0	39	123·3	39

February 15 and 16, 1841.

St. Helena { Decl. 1 Scale Division = 0′·71
H. F. k = ·0002; q = ·0003

Positions at the usual hours of observation, from February 14th, 18^h., to February 16th, 23^h.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
14	18	0	0	41·9	63·2	69		
	19	30	0	40·9	65·2	69		
	20	0	0	39·4	66·1	69		
	20	30	0	38·5	67·0	69		
	22	0	0	42·0	71·1	69		
	23	0	0	43·7	73·1	69		
15	0	0	0	46·7	69·9	70		
	2	0	0	40·0	62·4	71		
	3	0	0	38·2	60·1	72		
	4	0	0	36·6	54·6	73		
	5	0	0	38·1	53·3	73		
	6	0	0	39·0	55·6	74		
	8	0	0	39·3	50·8	73		
	10	0	0	40·2	58·0	72		
	11	0	0	41·3	59·4	72		
	12	0	0	40·0	56·1	71		
	13	0	0	40·0	56·9	71		
	14	0	0	41·0	59·2	71		
	15	0	0	40·0	58·6	70		
	16	0	0	39·1	59·1	71		
	18	0	0	39·0	59·8	70		
	19	30	0	38·9	61·1	70		
	20	0	0	38·1	61·3	70		
	20	30	0	37·2	62·9	70		
	22	0	0	40·7	61·2	70		
	23	0	0	41·9	62·3	70		
16	0	0	0	42·8	63·0	71		
	2	0	0	41·9	61·9	72		
	3	0	0	36·5	62·1	73		
	4	0	0	34·0	58·0	73		
	5	0	0	37·1	58·0	73		
	6	0	0	37·0	54·9	73		
	8	0	0	37·0	54·9	72		
	10	0	0	37·9	55·6	71		
	11	0	0	38·3	56·8	72		
	12	0	0	38·1	56·1	71		
	13	0	0	38·8	59·1	71		
	14	0	0	38·0	59·3	71		
	15	0	0	38·9	59·3	70		
	16	0	0	39·1	61·0	70		
	18	0	0	38·2	61·9	70		
	19	30	0	37·5	60·7	70		
	20	0	0	36·2	61·4	70		
	20	30	0	36·5	62·0	70		
	22	0	0	36·8	62·1	70		
	23	0	0	37·2	62·2	70		

The Mean Positions at the same hours during the Month are given in page 37.

Van Diemen Island { Decl. 1 Scale Division = 0′·71
H. F. k = ·0003; q =
V. F. k = ; q =

Extra observations.

The V. F. was observed at 2^m. 30^s. before, and the H. F. 2^m. 30^s. after the times specified.

15	3	15	0	25·3				
		20	0	26·3	68·5	68	93·2	67
		25	0	27·0				

[a] Commencing after Sunday midnight at Toronto.

[b] The mean positions of the H. F. magnetometer are between the 12th and 27th February, both days inclusive.

February 15 and 16, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
15	3	30	0	27·2	68·5		93·5	
		35	0	26·1				
		40	0	24·0	67·3		93·3	
		45	0	22·8				
		50	0				93·6	66
	4	10	0	28·2	70·3	68		
		15	0	27·0				
		20	0	24·0	71·2		92·5	
		25	0	22·5				
		30	0	21·4	70·4		91·8	
		35	0	21·1				
		40	0	21·5	67·7		90·8	
		45	0	21·7				
		50	0	21·7			92·3	
	5	15	0	29·2				
		20	0	30·5	64·4		96·9	
		25	0	33·4				
		30	0	36·2	65·3		97·2	
		35	0	36·0				
		40	0	34·3	65·3		97·0	
		45	0	33·5				
		50	0	34·5	66·4	67	97·0	67
	22	10	0	29·5	66·7	74		
		15	0	29·9				
		20	0	33·7	67·5		93·8	71
		25	0	35·3				
		30	0	36·3	67·0		93·8	
		35	0	37·3				
		40	0	37·6	66·4		94·4	
		45	0	37·3				
		50	0	37·3			94·5	
	23	10	0	38·7	66·0			
		15	0	38·5				
		20	0	39·3	66·7		95·0	
		25	0	39·7				
		30	0	39·1	66·6	73	95·2	71

Positions at the usual hours of observation, from February 14th, 18^h., to February 16th, 23^h.

14	18	0	0	46·9	70·9	73	94·9	70
	19	0	0	46·0	71·5		94·7	
	20	0	0	44·8	69·5	72	94·7	69
	21	0	0	44·5	69·5		95·2	
	22	0	0	45·9	72·8	71	93·6	68
	23	0	0	47·3	74·1		94·0	
15	0	0	0	45·1	71·0	69	95·0	67
	1	0	0	37·0	69·8		95·3	
	2	0	0	34·6	74·2	68	90·5	66
	3	0	0	25·9	68·0		93·8	
	4	0	0	26·3	66·3	68	94·7	67
	5	0	0	22·6	64·5		94·1	
	6	0	0	35·6	66·8	67	96·7	66
	7	0	0	38·4	69·3		94·7	
	8	0	0	31·5	70·7	66	93·5	64
	9	0	0	30·4	70·0		94·8	
	10	0	0	29·8	64·9	65	96·6	64
	11	0	0	35·0	63·0		98·3	
	12	0	0	39·2	64·5	65	96·6	64
	13	0	0	40·6	65·6		95·1	
	14	0	0	45·7	65·6	67	95·4	66
	15	0	0	47·4	66·1		95·3	
	16	0	0	48·4	67·0	71	95·3	70
	17	0	0	47·9	69·1		95·0	
	18	0	0	46·1	65·4	75	96·0	72

February 15 and 16, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
15	19	0	0	44·4	66·9		94·4	
	20	0	0	43·8	67·0	76	93·9	72
	21	0	0	43·5	66·4		94·3	
	22	0	0	28·7	65·0	74	94·1	71
	23	0	0	38·4	65·9		95·3	
16	0	0	0	40·5	67·0	73	96·0	71
	1	0	0	39·4	67·2		96·2	
	2	0	0	42·2	69·3	71	95·6	70
	3	0	0	41·0	69·5		95·8	
	4	0	0	41·0	69·7	68	93·0	68
	5	0	0	39·0	70·1		94·3	
	6	0	0	34·6	68·8	67	94·9	66
	7	0	0	39·7	71·2		94·7	
	8	0	0	39·6	67·5	65	96·1	64
	9	0	0	40·5	68·6		95·9	
	10	0	0	42·5	69·0	65	96·1	63
	11	0	0	38·6	69·7		94·7	
	12	0	0	40·1	69·1	66	94·5	66
	13	0	0	41·6	66·3		95·2	
	14	0	0	44·0	66·5	70	94·0	70
	15	0	0	43·2	65·4		93·3	
	16	0	0	44·3	66·0	74	93·7	73
	17	0	0	45·3	62·6		95·2	
	18	0	0	45·7	63·5	76	95·0	73
	19	0	0	45·0	65·7		93·7	
	20	0	0	43·3	66·1	76	93·6	73
	21	0	0	43·0	66·0		94·0	
	22	0	0	41·8	66·4	75	94·2	73
	23	0	0	39·2	66·9		93·6	

The Mean Positions at the same hours during the Month are given in pages 36 and 37.

February 22 and 23, 1841.

Toronto { Decl. 1 Scale Division = 0′·72
H. F. k = ·000076; q = ·0002
V. F. k = ·00009; q = ·00018

Extra observations.

The V. F. was observed at 1^m. 30^s. before, and the H. F. 2^m. after the times specified.

23	14	25	0	72·5	485·9	40	112·5	41
		30	0	68·2	474·9		114·1	
		35	0	63·0	468·7		111·1	
		40	0	63·1	462·6		112·5	
		55	0	56·7	467·0		114·4	
	15	0	0	54·0	460·5	40	114·2	42
		5	0	53·1	455·0		114·4	
		10	0	54·0	449·2		114·7	
		15	0	56·9	448·7		114·6	
		20	0	58·5	445·3		114·8	
		25	0	59·0	445·1		115·7	
		30	0	59·1	446·0		115·7	
		35	0	58·6	444·5		115·8	

Positions at the usual hours of observation, February 22 and 23.

22	0	0	0	59·2	470·7	42	109·3	44
	2	0	0	61·5	467·7	43	111·8	43
	4	0	0	55·2	455·7	44	110·4	44
	6	0	0	48·2	449·0	45	110·4	44
	8	0	0	47·0	460·5	45	110·6	44

February 22 and 23, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
22	10	0	0	45·1	479·2	46	109·8	45
	12	0	0	40·2	467·0	46	119·5	46
	14	0	0	57·2	443·2	45	112·4	45
	16	0	0	51·6	436·0	45	115·6	46
	18	0	0	52·0	437·2	46	111·8	46
	20	0	0	52·8	440·8	45	110·9	46
	22	0	0	48·8	433·6	46	110·9	46
23	0	0	0	65·1	454·6	45	107·4	45
	2	0	0	55·0	432·3	43	109·6	44
	4	0	0	53·0	421·2	42	109·0	43
	6	0	0	46·4	426·6	41	118·8	42
	8	0	0	35·9	434·1	40	122·4	41
	10	0	0	45·2	451·5	41	125·7	41
	12	0	0	47·1	437·0	42	119·8	42
	14	0	0	82·4	417·0	40	128·6	41
	16	0	0	54·7	439·0	40	118·4	42
	18	0	0	50·0	449·5	39	111·6	39
	20	0	0	47·2	458·5	38	115·9	39
	22	0	0	52·7	466·5	37	119·8	38

Mean Positions at the same hours during the Month. [a]

	0	0	0	55·0	473·3	38	113·7	43
	2	0	0	56·3	473·0	38	117·5	42
	4	0	0	55·6	457·7	39	116·9	42
	6	0	0	49·8	456·7	40	119·2	43
	8	0	0	46·7	457·7	41	120·0	43
	10	0	0	48·0	462·5	41	119·4	44
	12	0	0	50·6	463·2	41	119·9	45
	14	0	0	53·6	458·0	41	120·2	45
	16	0	0	56·5	463·1	41	118·7	45
	18	0	0	54·3	465·3	40	111·3	43
	20	0	0	52·5	468·2	39	109·4	43
	22	0	0	53·5	470·0	39	111·6	43

St. Helena { Decl. 1 Scale Division = 0′·71
H. F. k = ·0002; q = ·0003

Extra observations.

The H. F. was observed at 1^m. after the times specified.

23	8	1	47	46·1	69	
		16	47	46·0		
		31	47	48·2		
		46	47	49·5		
	9	1	47	49·2	69	
		16	47	38·2	49·2	
		31	47	38·0	49·8	
		46	47	37·8	49·2	
	10	1	47	37·2	49·3	69
		16	47	37·1	50·7	
		31	47	37·6	51·3	
		46	47	38·5	54·2	
	11	1	47	38·0	55·8	68
		16	47	40·1	56·0	
		31	47	40·1	56·2	
		46	47	40·1	56·8	
	12	1	47	40·0	56·9	68
		16	47	40·2	57·0	
		31	47	39·2	57·7	
		46	47	40·1	57·8	
	13	1	47	40·2	57·3	68
		31	47	40·0	56·1	
		46	47	40·1	56·9	
	14	1	47	40·5	58·0	68

[a] The mean positions of the V. F. magnet are from February 20th to 27th inclusive.

February 22 and 23, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
23	14	16	47	40·9	59·1			
		31	47	41·0	60·0			
		46	47	41·0	60·9			
	15	1	47	41·0	61·0	68		
		16	47	41·5	61·1			
		31	47	41·6	60·9			
		46	47	41·0	60·3			
	16	1	47	40·8	60·1	68		
		16	47	41·1	60·1			
Positions at the usual hours of observation, February 22 and 23.								
22	0	0	0	47·5	74·8	69		
	2	0	0		71·5	69		
	3	0	0		69·1			
	4	0	0		68·9			
	5	0	0		68·1	69		
	6	0	0		67·3	69		
	8	0	0	41·5	66·5	69		
	10	0	0	42·6	68·0	69		
	11	0	0	41·0	62·4	69		
	12	0	0	39·4	59·2	69		
	13	0	0	36·4	57·4	69		
	14	0	0	38·9	57·2	68		
	15	0	0	38·7	55·2	68		
	16	0	0	39·1	56·3	68		
	18	0	0	38·1	58·0	68		
	19	30	0	35·1	60·9	68		
	20	0	0	33·2	62·0	68		
	20	30	0	32·0	65·0	68		
	22	0	0	35·2	69·1	68		
	23	0	0	39·0	74·8	68		
23	0	0	0	41·9	73·5	68		
	2	0	0	38·9	65·3	68		
	3	0	0	39·8	63·2	69		
	4	0	0	40·4	56·2	69		
	5	0	0	37·2	53·9	69		
	6	0	0	37·0	53·0	69		
	8	0	0	36·2	46·1	69		
	10	0	0	37·1	49·3	69		
	11	0	0	39·8	55·8	68		
	12	0	0	40·2	57·0	69		
	13	0	0	40·2	57·2	69		
	14	0	0	40·8	58·0	68		
	15	0	0	41·0	61·0	68		
	16	0	0	40·9	60·6	68		
	18	0	0	39·8	60·9	68		
	19	30	0	37·7	61·1	68		
	20	0	0	36·1	62·3	68		
	20	30	0	36·1	63·0	68		
	22	0	0	37·8	66·0	68		
	23	0	0	39·8	69·0	68		

The Mean Positions at the same hours during the Month are given in page 37.

Van Diemen Island { Decl. 1 Scale Division = 0′·71; H. F. k = ·0003; = q; V. F. k = ; = q

Extra observations.

The V. F. was observed at 2^m. 30^s. before, and the H. F. 2^m. 30^s. after the times specified.

22	12	15	0	29·8				
		20	0	29·2	61·4	62	100·0	61
		25	0	31·1				

February 22 and 23, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
22	12	30	0	31·7	62·3		100·1	
		35	0	32·1				
		40	0	34·9	63·6		100·7	
		45	0	35·1				
		50	0	39·6			100·7	
Positions at the usual hours of observation, February 22 and 23.								
22	0	0	0	43·0	71·2	70	94·1	68
	1	0	0	42·3	72·8		93·7	
	2	0	0	40·4	72·9	69	92·9	67
	3	0	0	40·2	72·5		93·4	
	4	0	0	41·2	73·0	67	94·1	66
	5	0	0	42·4	73·3		94·6	
	6	0	0	40·3	74·1	65	94·0	64
	7	0	0	39·8	74·4		94·1	
	8	0	0	40·0	74·6	64	94·6	63
	9	0	0	37·9	74·8		94·8	
	10	0	0	34·6	74·7	63	94·0	62
	11	0	0	34·2	70·0		97·7	
	12	0	0	29·2	61·9	62	99·2	61
	13	0	0	43·7	65·2		101·1	
	14	0	0	52·1	67·2	62	99·4	60
	15	0	0	46·7	72·5		97·0	
	16	0	0	46·9	72·5	63	97·1	60
	17	0	0	48·4	73·7		96·6	
	18	0	0	48·0	72·6	64	97·8	62
	19	0	0	45·5	70·8		97·8	
	20	0	0	44·5	70·2	65	97·1	62
	21	0	0	43·7	70·8		96·5	
	22	0	0	37·0	70·2	64	97·5	62
	23	0	0	39·4	73·2		94·7	
23	0	0	0	41·3	73·3	63	96·1	61

The Mean Positions at the same hours during the Month are given in pages 36 and 37.

February 26 and 27, 1841.

Toronto { Decl. 1 Scale Division = 0′·72; H. F. k = ·000076; q = ·0002; V. F. k = ·00009; q = ·00018

Regular and term observations.

The V. F. was observed at 2^m. 30^s. before, and the H. F. 2^m. 30^s. after the times specified.

26	0	0	0	63·0	428·8	42	102·0	43
	2	0	0	55·6	464·6	41	103·6	42
	4	0	0	62·5	446·3	43	103·1	45
	6	0	0	49·9	425·8	44	108·1	45
	8	0	0	43·6	445·7	45	110·2	45
	10	0	0	50·1	457·7	46	109·2	46
		5	0	50·2				
		10	0	49·4	454·9	45	109·0	46
		15	0	48·4				
		20	0	48·1	448·9		108·9	
		25	0	48·9				
		30	0	48·1	448·1		109·9	
		35	0	48·9				
		40	0	49·2	448·3		110·5	
		45	0	50·6				
		50	0	50·9	453·5		111·8	
		55	0	51·0				
	11	0	0	50·2	452·3	45	112·2	46
		5	0	48·4				

February 26 and 27, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
26	11	10	0	48·1	454·9		111·3	
		15	0	48·0				
		20	0	48·0	453·8		111·9	
		25	0	45·9				
		30	0	45·0	446·0		110·9	
		35	0	44·7				
		40	0	44·9	428·0		110·1	
		45	0	46·6				
		50	0	48·5	447·1		110·3	
		55	0	49·0				
	12	0	0	49·4	448·5	45	111·3	46
		5	0	49·0				
		10	0	47·8	450·7		111·5	
		15	0	47·0				
		20	0	47·1	447·1		111·6	
		25	0	48·5				
		30	0	48·5	448·4		112·1	
		35	0	48·7				
		40	0	46·5	443·0		112·2	
		45	0	47·1				
		50	0	53·9	426·7		118·6	
		55	0	63·8				
	13	0	0	77·2	438·3	45	118·7	46
		5	0	75·3				
		10	0	77·1	435·4		111·7	
		15	0	78·2				
		20	0	75·3	428·6		108·6	
		25	0	73·7				
		30	0	70·4	429·5		109·2	
		35	0	64·1				
		40	0	56·4	423·1		111·5	
		45	0	54·7				
		50	0	52·6	422·5		114·2	
		55	0	54·2				
	14	0	0	55·1	426·1	45	116·1	46
		5	0	55·4				
		10	0	56·1	432·0		115·4	
		15	0	55·8				
		20	0	56·9	427·8		115·3	
		25	0	56·9				
		30	0	55·4	427·1		115·0	
		35	0	55·5				
		40	0	54·6	430·1		116·7	
		45	0	55·4				
		50	0	55·9	434·2		116·6	
		55	0	57·5				
	15	0	0	59·9	432·5	45	115·9	46
		5	0	63·5				
		10	0	67·1	430·6		113·8	
		15	0	67·8				
		20	0	62·8	421·4		110·5	
		25	0	51·3				
		30	0	50·4	388·0		109·2	
		35	0	46·0				
		40	0	56·9	402·2		102·8	
		45	0	64·1				
		50	0	66·6	415·3		104·1	
		55	0	76·4				
	16	0	0	79·8	416·9	45	109·8	46
		5	0	80·1				
		10	0	73·1	427·2		107·7	
		15	0	65·2				
		20	0	62·9	428·7		111·1	
		25	0	64·1				
		30	0	60·7	442·6		115·2	
		35	0	59·8				
		40	0	56·2	441·4		114·4	

| February 26 and 27, 1841. | | |

February 26 and 27, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
27	9	30	0	49·2	455·3		157·0	
		35	0	49·3				
		40	0	49·3	448·7		156·9	
		45	0	49·6				
		50	0	49·7	458·1		157·3	
		55	0	49·5				
	10	0	0	49·5	446·2	49	150·1	49
	12	0	0	53·6	441·0	48	152·5	49
	14	0	0	60·6	448·9	47	152·5	48
	16	0	0	53·2	446·5	47	154·7	48

The Mean Positions at the usual hours of observation, are given in page 39.

St. Helena {Decl. 1 Scale Division = 0′·71
H. F. k = ·0002; q = ·0003

Regular and term observations

The H. F. was observed at 2^{m}. 30^{s}. after the times specified.

26	0	0	0	36·1	70·8	69		
	2	0	0	35·8	64·8	70		
	3	0	0	36·9	64·0	70		
	4	0	0	34·0	65·0	70		
	5	0	0	33·3	66·9	70		
	6	0	0		60·1	70		
	8	0	0	34·5	62·0	69		
	10	0	0	37·9	62·8	69		
		5	0	37·6				
		10	0	37·4	62·1			
		15	0	37·2				
		20	0	37·5	62·2			
		25	0	37·4				
		30	0	37·8	62·8			
		35	0	37·9				
		40	0	38·0	62·8			
		45	0	38·1				
		50	0	38·0	62·7			
		55	0	38·0				
	11	0	0	38·0	61·8	69		
		5	0	38·0				
		10	0	37·9	61·0			
		15	0	37·9				
		20	0	37·9	60·6			
		25	0	38·0				
		30	0	37·6	60·4			
		35	0	37·2				
		40	0	36·9	59·1			
		45	0	36·8				
		50	0	36·2	59·0			
		55	0	36·0				
	12	0	0	35·9	58·9	69		
		5	0	35·9				
		10	0	35·8	58·8			
		15	0	35·9				
		20	0	35·9	58·8			
		25	0	35·9				
		30	0	35·9	58·8			
		35	0	35·9				
		40	0	36·0	61·8			
		45	0	36·2				
		50	0	37·1	65·8			
		55	0	38·0				
	13	0	0	38·1	66·2	69		
		5	0	38·9				
		10	0		65·0			

February 26 and 27, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
26	13	15	0	39·0				
		20	0	39·1	64·1			
		25	0	38·8				
		30	0	38·9	63·1			
		35	0	38·9				
		40	0	38·9	62·1			
		45	0	38·7				
		50	0	38·9	62·1			
		55	0	38·9				
	14	0	0	38·9	62·1	69		
		5	0	38·1				
		10	0	38·0	62·5			
		15	0	37·9				
		20	0	37·9	61·5			
		25	0	37·9				
		30	0	37·9	61·3			
		35	0	37·8				
		40	0	37·5	61·0			
		45	0	37·5				
		50	0	37·4	61·2			
		55	0	37·5				
	15	0	0	37·5	61·5	69		
		5	0	37·9				
		10	0	37·9	62·0			
		15	0	37·9				
		20	0	38·2	62·6			
		25	0	38·8				
		30	0	38·0	63·2			
		35	0	38·0				
		40	0	38·1	65·2			
		45	0	38·9				
		50	0	38·9	65·9			
		55	0	39·1				
	16	0	0	39·1	66·5	69		
		5	0	39·0				
		10	0	38·9	64·9			
		15	0	38·8				
		20	0	38·4	63·8			
		25	0	38·2				
		30	0	38·1	63·0			
		35	0	38·1				
		40	0	38·1	62·9			
		45	0	38·0				
		50	0	38·0	62·1			
		55	0	38·0				
		0	0	38·0	62·1	69		
		5	0	37·9				
		10	0	38·0	62·6			
		15	0	37·9				
		20	0	37·9	62·7			
		25	0	37·9				
		30	0	37·9	62·8			
		35	0	37·2				
		40	0	37·2	62·6			
		45	0	37·1				
		50	0	37·0	62·2			
		55	0	36·9				
	18	0	0	36·9	62·1	69		
		5	0	36·6				
		10	0	36·4	62·0			
		15	0	37·0				
		20	0	36·9	62·1			
		25	0	36·9				
		30	0	37·1	62·3			
		35	0	37·3				
		40	0	37·3	62·7			
		45	0	37·1				

February 26 and 27, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
26	18	50	0	36·9	62·7			
		55	0	36·9				
	19	0	0	36·7	62·8	69		
		5	0	36·8				
		10	0	36·9	62·3			
		15	0	36·6				
		20	0	36·4	62·0			
		25	0	36·1				
		30	0	35·9	62·4			
		35	0	35·5				
		40	0	35·1	63·2			
		45	0	35·6				
		50	0	34·8	63·6			
		55	0	34·2				
	20	0	0	34·4	64·0	69		
		5	0	34·1				
		10	0	33·9	64·4			
		15	0	33·6				
		20	0	33·0	64·1			
		25	0					
		30	0	32·5	64·2			
		35	0					
		40	0	32·4	64·3			
		45	0	32·5				
		50	0	32·4	64·5			
		55	0	32·2				
	21	0	0	32·2	64·5	68		
		5	0	32·4				
		10	0	32·3	64·5			
		15	0	32·8				
		20	0	32·9	65·1			
		25	0	33·0				
		30	0	33·0	65·1			
		35	0	33·1				
		40	0	33·1	66·1			
		45	0	33·2				
		50	0	33·5	67·0			
		55	0	33·8				
	22	0	0	33·8	68·0	68		
		5	0	34·1				
		10	0	34·4	68·0			
		10	0	34·4				
		20	0	34·5	68·0			
		25	0	35·1				
		30	0	35·2	67·9			
		35	0	35·0				
		40	0	35·2	67·9			
		45	0	35·4				
		50	0	35·3	67·9			
		55	0	35·2				
	23	0	0	35·1	68·0	68		
		5	0	35·2				
		10	0	35·4	68·2			
		15	0	35·7				
		20	0	35·9	68·5			
		25	0	36·1				
		30	0	36·8	68·2			
		35	0	37·0				
		40	0	37·2	67·9			
		45	0	37·2				
		50	0	38·0	67·8			
		55	0	38·2				
27	0	0	0	38·9	67·8	69		
		5	0	39·0				
		10	0	39·0	67·8			
		15	0	39·9				
		20	0	40·0	67·9			

February 26 and 27, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. ○	Sc.-Div^{ns}.	Ther. ○
27	0	25	0	40·1				
		30	0	40·7	68·0			
		35	0	41·0				
		40	0	41·1	68·1			
		45	0	41·8				
		50	0	41·9	68·2			
		55	0	42·0				
	1	0	0	42·0	68·3	69		
		5	0	42·1				
		10	0	42·4	68·2			
		15	0	42·5				
		20	0	42·6	68·1			
		25	0	42·7				
		30	0	42·7	68·2			
		35	0	42·8				
		40	0	42·9	68·2			
		45	0	42·9				
		50	0	42·5	68·0			
		55	0	42·1				
	2	0	0	42·0	67·6	69		
		5	0	42·0				
		10	0	42·2	67·0			
		15	0	42·2				
		20	0	42·0	66·2			
		25	0	42·0				
		30	0	42·0	66·1			
		35	0	42·0				
		40	0	42·0	65·8			
		45	0	42·0				
		50	0	42·0	65·2			
		55	0	42·0				
	3	0	0	42·0	65·3	69		
		5	0	42·0				
		10	0	41·8	65·3			
		15	0	41·8				
		20	0	41·5	65·3			
		25	0	41·5				
		30	0	41·3	65·0			
		35	0	41·1				
		40	0	41·0	64·9			
		45	0	40·9				
		50	0	40·7	64·8			
		55	0	40·5				
	4	0	0	40·2	64·7	69		
		5	0	39·9				
		10	0	39·2	64·2			
		15	0	39·0				
		20	0	38·9	64·0			
		25	0	38·8				
		30	0	38·9	63·6			
		35	0	38·1				
		40	0		63·1			
		45	0	37·9				
		50	0	37·1	62·9			
		55	0	37·1				
	5	0	0	37·1	62·1	69		
		5	0	36·9				
		10	0	36·7	62·0			
		15	0	36·5				
		20	0	36·2	61·9			
		25	0	36·0				
		30	0	35·8	62·0			
		35	0	35·9				
		40	0	35·7	62·1			
		45	0	35·3				
		50	0	35·4	62·3			
		55	0	35·1				

February 26 and 27, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. ○	Sc.-Div^{ns}.	Ther. ○
27	6	0	0	34·9	62·1	69		
		5	0	34·9				
		10	0	35·0	62·4			
		15	0	35·0				
		20	0	35·0	62·2			
		25	0	35·0				
		30	0	34·9	62·1			
		35	0	34·9				
		40	0	34·9	61·9			
		45	0	34·9				
		50	0	34·9	61·9			
		55	0	35·1				
	7	0	0	35·1	61·9	69		
		5	0	35·9				
		10	0	35·9	61·9			
		15	0	36·0				
		20	0	36·0	61·9			
		25	0	36·0				
		30	0	36·0	62·1			
		35	0	36·0				
		40	0	36·1	62·1			
		45	0	36·1				
		50	0	36·1	62·1			
		55	0	36·1				
	8	0	0	36·1	62·4	69		
		5	0	36·9				
		10	0	37·0	62·8			
		15	0	37·2				
		20	0	37·3	63·1			
		25	0	37·3				
		30	0	37·3	63·4			
		35	0	37·2				
		40	0	37·3	63·7			
		45	0	37·6				
		50	0	37·7	64·0			
		55	0	37·8				
	9	0	0	37·8	64·1	69		
		5	0	37·9				
		10	0	37·9	64·1			
		15	0	37·9				
		20	0	37·8	64·0			
		25	0	37·9				
		30	0	38·0	64·0			
		35	0	37·9				
		40	0	37·4	63·8			
		45	0	37·2				
		50	0	37·4	64·1			
		55	0	37·5				

The Mean Positions at the usual hours of observation during the Month are given in page 37.

Van Diemen Island { Decl. 1 Scale Division = 0′·71 ; H. F. k = ·0003 ; q = ; V. F. k = ; q =

Regular and extra observations.

The V. F. was observed at 2^m. 30^s. before, and the H. F. 2^m. 30^s. after the times specified.

26	0	0	0	29·8	72·7	68	93·5	67
		15	0	27·6				
		20	0	25·8	71·8		91·6	
		25	0	29·0				
		30	0	33·5	71·3		92·3	
		35	0	33·1				
		40	0	32·7	70·3		92·8	

February 26 and 27, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. ○	Sc.-Div^{ns}.	Ther. ○
26	0	45	0	34·0				
		50	0	31·3	68·4		93·9	
	1	0	0	29·0	69·3		95·2	67
		10	0	28·1	68·1		93·2	
		15	0	29·5				
		20	0	29·6	67·7		93·9	
		25	0	29·5				
		30	0	28·3	66·7		93·7	
		35	0	28·0				
		40	0	28·6	65·4		93·8	
		45	0	29·1				
	2	0	0	32·6	65·3	67	94·5	67
		12	30	34·6				
		17	30	34·6	66·6		95·4	
		22	30	34·2				
		27	30	34·8	66·9		95·1	
		32	30	35·2				
		37	30	35·1	67·8		94·9	
		42	30	35·1				
		47	30	34·7	66·8		94·3	
	3	0	0	36·5	67·4		96·6	67
	4	0	0	49·2	69·1	65	95·3	64
		10	0	46·1	70·2			
		15	0	45·3				
		20	0	44·7	70·2		96·2	
		25	0	43·9				
		30	0	43·1	71·0		95·6	
		35	0	43·6				
		40	0	42·9	70·2		95·3	
		45	0	43·8				
		50	0	44·8			95·6	
	5	0	0	45·1	70·5		93·4	63
	6	0	0	49·9	70·4	64	91·9	62
	7	0	0	48·5	74·9		96·0	62
	8	0	0	44·9	69·7	64	94·9	61
	9	0	0	38·4	72·5		95·5	60

Term observations.

The Decl., H. F., and V. F. were observed simultaneously at the times specified.

26	10	0	0	38·4	72·6	60	94·9	57
		2	30	37·9	71·9		95·5	
		5	0	37·4	72·1		95·6	
		7	30	37·3	71·3		95·4	
		10	0	39·4	71·4		95·3	
		12	30	38·8	71·3		95·8	
		15	0	39·5	71·2		95·9	
		17	30	38·7	71·4		96·1	
		20	0	39·3	71·2		96·0	
		22	30	40·6	71·3		96·2	
		25	0	39·4	71·1		96·2	
		27	30	38·9	70·7		96·2	
		30	0	39·4	71·3		96·2	
		32	30	39·6	71·3		96·3	
		35	0	39·0	71·2		95·9	
		37	30	39·7	71·3		95·9	
		40	0	39·4	71·0		95·8	
		42	30	39·2	71·1		96·0	
		5	0	38·9	70·9		95·8	
		47	30	38·9	71·2		95·8	
		50	0	39·2	71·4		95·8	
		52	30	39·6	71·4		95·9	
		55	0	39·8	71·3		95·7	
		57	30	39·8	71·5		95·6	
	11	0	0	40·7	71·7	61	96·0	60

February 26 and 27, 1841.																							
M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.		M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.		M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °	d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °	d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
26	11	2	30	40·2	71·8		95·5		26	13	50	0	40·0	66·6		97·6		26	16	37	30	47·6	72·8		98·4	
		5	0	39·9	72·0		95·3				52	30	40·4	66·9		97·9				40	0	47·6	72·7		98·4	
		7	30	39·2	71·6		95·8				55	0	40·6	66·7		97·9				42	30	48·1	73·0		98·4	
		10	0	39·1	71·5		95·9				57	30	41·1	67·0		97·8				45	0	48·1	73·1		98·3	
		12	30	39·2	71·7		96·0			14	0	0	41·5	67·1	60	98·0	59			47	30	48·0	73·3		97·9	
		15	0	38·8	71·4		96·0				2	30	41·8	67·2		97·6				50	0	48·0	73·6		98·0	
		17	30	38·5	71·5		96·0				5	0	41·9	67·3		97·5				52	30	48·1	74·0		97·8	
		20	0	39·2	71·8		95·9				7	30	42·2	67·4		97·7				55	0	48·0	74·2		97·6	
		22	30	40·1	72·2		96·1				10	0	42·0	67·3		97·7				57	30	48·0	74·2		97·4	
		25	0	40·0	72·1		95·7				12	30	42·0	67·2		97·4			17	0	0	48·4	74·2	60	97·4	58
		27	30	39·6	72·2		95·6				15	0	42·2	67·1		97·4				2	30	48·1	74·2		97·4	
		30	0	39·7	72·3		95·7				17	30	42·4	66·9		97·5				5	0	48·1	74·1		97·3	
		32	30	39·7	72·3		95·6				20	0	42·5	66·9		97·7				7	30	48·2	74·2		97·2	
		35	0	39·9	71·7		95·3				22	30	42·8	66·8		97·7				10	0	48·3	74·0		97·6	
		37	30	40·9	72·2		96·0				25	0	42·6	66·8		98·0				12	30	48·5	Lost.		97·6	
		40	0	41·2	71·8		95·7				27	30	42·7	66·9		97·9				15	0	48·2	73·5		97·4	
		42	30	41·3	72·1		96·2				30	0	43·1	67·0		98·1				17	30	48·5	73·3		97·6	
		45	0	39·2	72·1		96·0				32	30	43·1	67·2		97·9				20	0	48·5	73·4		98·0	
		47	30	38·7	71·9		95·6				35	0	43·3	67·4		98·0				22	30	48·5	73·3		98·0	
		50	0	37·9	71·3		95·1				37	30	43·6	67·5		97·9				25	0	48·7	73·4		98·2	
		52	30	37·4	70·6		95·0				40	0	43·7	67·6		97·8				27	30	49·2	73·7		98·3	
		55	0	37·8	70·7		95·2				42	30	44·0	67·7		97·7				30	0	49·2	73·6		98·4	
		57	30	38·0	70·1		95·4				45	0	43·2	67·7		97·5				32	30	49·4	73·5		98·2	
	12	0	0	37·8	69·7	60	95·9	59			47	30	43·3	67·9		97·8				35	0	49·5	73·3		98·3	
		2	30	38·1	69·5		95·1				50	0	43·5	68·2		97·6				37	30	49·1	73·1		98·3	
		5	0	38·1	69·3		95·1				52	30	43·6	68·3		97·0				40	0	49·1	73·1		98·2	
		7	30	38·0	69·1		96·1				55	0	43·8	68·4		97·3				42	30	49·0	73·1		98·2	
		10	0	37·4	68·9		95·5				57	30	43·4	68·1		96·8				45	0	49·3	73·3		98·4	
		12	30	37·2	68·6		96·2			15	0	0	43·8	68·2	60	97·4	60			47	30	49·7	73·5		98·3	
		15	0	37·7	68·4		96·5				2	30	43·8	67·8		97·2				50	0	49·6	73·5		98·3	
		17	30	37·0	68·4		96·4				5	0	42·5	67·9		97·3				52	30	49·7	73·5		98·3	
		20	0	37·4	68·3		96·3				7	30	42·6	67·4		96·9				55	0	49·5	73·3		98·2	
		22	30	36·9	68·2		96·0				10	0	42·9	67·0		97·4				57	30	49·6	73·2		98·2	
		25	0	36·9	68·2		95·8				12	30	44·0	66·7		98·0			18	0	0	49·9	73·3	60	98·1	58
		27	30	37·8	68·2		96·2				15	0	44·7	66·4		97·9				2	30	49·9	73·2		98·2	
		30	0	37·5	68·1		96·4				17	30	44·7	66·2		98·7				5	0	50·0	73·5		98·2	
		32	30	37·7	67·6		96·4				20	0	44·8	65·8		99·1				7	30	50·0	73·6		98·1	
		35	0	38·0	67·4		96·6				22	30	44·5	65·7		98·5				10	0	50·0	73·9		98·1	
		37	30	37·3	67·2		96·6				25	0	43·4	65·3		98·1				12	30	49·9	73·9		97·8	
		40	0	37·3	66·7		97·1				27	30	41·7	65·3		98·0				15	0	49·7	74·1		97·8	
		42	30	37·5	66·1		97·3				30	0	41·3	66·1		98·8				17	30	49·6	74·5		97·7	
		45	0	36·3	65·4		97·2				32	30	41·8	66·9		98·6				20	0	49·7	75·1		97·7	
		47	30	35·9	64·9		97·6				35	0	41·5	66·8		98·5				22	30	49·7	75·8		97·7	
		50	0	36·1	64·6		97·7				37	30	41·7	66·9		98·7				25	0	49·5	75·7		97·3	
		52	30	36·4	64·5		98·3				40	0	41·8	66·3		98·0				27	30	49·6	75·9		97·2	
		55	0	36·2	64·6		98·1				42	30	42·5	65·7		98·4				30	0	49·3	75·9		96·9	
		57	30	36·9	64·3		98·5				45	0	43·8	65·9		99·1				32	30	49·4	75·9		97·2	
	13	0	0	35·9	63·9	60	98·3	59			47	30	45·1	66·6		99·2				35	0	49·4	76·0		97·2	
		2	30	36·5	63·3		99·1				50	0	45·5	67·0		99·4				37	30	49·3	75·9		97·2	
		5	0	35·2	63·2		99·3				52	30	45·7	67·4		99·6				40	0	48·6	75·7		97·1	
		7	30	35·0	63·1		98·9				55	0	46·0	67·3		99·1				42	30	48·5	75·7		97·1	
		10	0	35·0	63·2		99·5				57	30	46·3	67·6		99·3				45	0	48·5	75·7		97·1	
		12	30	34·2	63·4		99·1			16	0	0	46·4	67·7	60	99·0	59			47	30	48·5	75·5		97·3	
		15	0	34·4	63·6		99·0				2	30	46·7	67·6		100·3				50	0	48·5	75·7		97·5	
		17	30	34·8	63·9		99·1				5	0	47·1	67·8		100·0				52	30	48·4	75·4		97·4	
		20	0	34·7	64·3		98·6				7	30	47·6	68·9		100·0				55	0	47·7	74·6		97·2	
		22	30	35·7	64·4		98·7				10	0	47·6	69·4		99·9				57	30	48·0	75·0		97·7	
		25	0	35·4	64·8		99·0				12	30	47·5	69·5		100·0			19	0	0	47·7	74·5	60	97·7	58
		27	30	36·5	65·0		98·9				15	0	47·6	69·6		100·0				2	30	47·3	74·1		98·0	
		30	0	37·4	65·2		98·6				17	30	47·6	70·3		100·0				5	0	46·7	73·6		98·3	
		32	30	36·4	65·3		98·4				20	0	47·7	70·5		100·0				7	30	45·5	73·5		97·9	
		35	0	36·9	65·4		98·5				22	30	47·3	70·6		99·8				10	0	45·3	73·6		97·8	
		37	30	37·7	65·9		98·3				25	0	47·4	70·9		99·6				12	30	44·8	73·4		97·6	
		40	0	37·9	66·0		98·3				27	30	47·4	71·2		99·4				15	0	43·9	73·4		97·2	
		42	30	38·4	66·2		98·2				30	0	47·5	71·8		99·1				17	30	43·1	73·6		97·0	
		45	0	39·1	66·3		98·5				32	30	47·5	72·3		98·8				20	0	42·4	73·6		96·7	
		47	30	39·8	66·7		98·1				35	0	47·5	72·6		98·7				22	30	42·6	74·8		96·7	

| February 26 and 27, 1841. | | |

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M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
27	3	47	30	39·9	75·2		97·2	
		50	0	39·9	75·3		97·3	
		52	30	40·0	75·4		97·5	
		55	0	40·5	75·6		97·0	
		57	30	40·7	75·6		97·1	
	4	0	0	40·5	75·5	60	97·0	60
		2	30	40·2	75·5			
		5	0	40·4	75·5		97·0	
		7	30	40·4	75·5		97·1	
		10	0	40·2	75·6		97·0	
		12	30	40·2	75·7		96·9	
		15	0	40·3	75·7		96·9	
		17	30	40·2	75·7		96·8	
		20	0	40·1	75·9		96·8	
		22	30	40·1	75·9		96·8	
		25	0	39·9	75·9		97·0	
		27	30	39·9	76·1		97·0	
		30	0	40·0	76·1		97·0	
		32	30	40·2	76·1		96·9	
		35	0	40 1	76·2		96·9	
		37	30	40·0	76·4		97·0	
		40	0	40·3	76·5		96·9	
		42	30	40·4	76·5		96·9	
		45	0	40·4	76·5		96·9	
		47	30	40·6	76·6		96·7	
		50	0	40·8	76·6		96·7	
		52	30	40·7	76·5		96·8	
		55	0	40·4	76·4		96·4	
		57	30	39·7	76·3		96·4	
	5	0	0	39·4	76·3	60	96·6	60
		2	30	39·5	76·5		96·6	
		5	0	39·9	76·5		96·8	
		7	30	39·9	76·5		96·4	
		10	0	39·5	76·5		96·6	
		12	30	39·3	76·5		96·4	
		15	0	39·1	76·4		96·5	
		17	30	38·9	76·2		96·5	
		20	0	39·4	75·7		96·8	
		22	30	40·2	75·8		97·0	
		25	0	40·9	75·9		97·1	
		27	30	41·5	76·1		97·3	
		30	0	41·8	76·1		97·3	
		32	30	42·0	76·2		97·4	
		35	0	42·5	75·8		97·3	
		37	30	42·6	75·7		97·4	
		40	0	42·7	75·8		97·4	
		42	30	42·5	76·0		97·2	
		45	0	42·5	76·2		97·2	
		47	30	42·7	76·2		97·1	
		50	0	43·0	76·1		97·0	
		52	30	43·5	75·9		97·0	
		55	0	44·0	75·9		97·1	
		57	30	44·4	76·0		97·1	
	6	0	0	44·2	75·8	60	97·1	60
		2	30	44·1	75·6		97·1	
		5	0	44·1	75·6		97·1	

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M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
27	6	7	30	44·1	75·7		96·9	
		10	0	44·7	76·0		97·0	
		12	30	45·0	76·5		96·9	
		15	0	45·8	76·7		96·8	
		17	30	46·2	76·7		96·9	
		20	0	46·4	76·8		96·7	
		22	30	47·0	76·8		96·7	
		25	0	47·0	77·0		96·7	
		27	30	48·0	77·0		96·7	
		30	0	48·3	77·4		96·8	
		32	30	48·0	77·6		96·7	
		35	0	48·5	77·9		96·5	
		37	30	48·5	77·4		96·3	
		40	0	47·5	77·4		96·1	
		42	30	46·4	77·5		95·5	
		45	0	46·2	77·7		95·8	
		47	30	45·8	77·9		95·7	
		50	0	45·3	77·9		95·6	
		52	30	45·2	78·2		95·3	
		55	0	45·1	78·1		95·3	
		57	30	44·7	77·8		95·3	
	7	0	0	43·6	77·4	60	95·4	58
		2	30	43·0	77·1		95·1	
		5	0	42·6	76·8		95·0	
		7	30	43·5	76·7		95·3	
		10	0	44·6	76·8		95·5	
		12	30	44·4	76·6		95·6	
		15	0	44·2	76·5		96·0	
		17	30	43·9	76·2		96·0	
		20	0	44·1	76·1		96·1	
		22	30	44·2	76·2		96·1	
		25	0	45·5	76·3		96·3	
		27	30	46·2	76·6		96·5	
		30	0	47·0	77·0		96·7	
		32	30	47·9	77·2		96·8	
		35	0	48·0	77·6		96·7	
		37	30	49·0	77·8		96·6	
		40	0	49·3	78·0		96·6	
		42	30	49·4	78·0		96·4	
		45	0	49·1	77·9		96·3	
		47	30	48·7	77·9		95·9	
		50	0	47·9	77·8		95·7	
		52	30	47·3	77·9		95·6	
		55	0	46·5	77·6		95·4	
		57	30	45·6	77·5		95·1	
	8	0	0	45·0	77·3	60	95·1	59
		2	30	44·8	77·3		94·9	
		5	0	44·0	76·9		94·9	
		7	30	44·1	76·8		94·9	
		10	0	43·9	76·6		95·0	
		12	30	44·0	76·7		95·3	
		15	0	43·8	76·5		95·4	
		17	30	43·0	76·3		95·5	
		20	0	43·1	76·4		95·7	
		22	30	43·0	76·2		95·8	
		25	0	43·0	76·3		95·9	

February 26 and 27, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
27	8	27	30	42·5	76·2		95·8	
		30	0	42·5	76·3		95·7	
		32	30	42·5	76·3		95·7	
		35	0	42·4	76·4		95·7	
		37	30	42·1	76·4		95·7	
		40	0	41·5	76·3		95·7	
		42	30	41·3	76·3		95·5	
		45	0	41·4	76·3		95·6	
		47	30	41·0	76·4		95·6	
		50	0	40·7	76·4		95·7	
		52	30	40·4	76·3		95·5	
		55	0	40·0	76·3		95·7	
		57	30	40·0	76·3		95·4	
	9	0	0	40·0	76·3	60	95·7	59
		2	30	40·0	76·3		95·7	
		5	0	39·8	76·2			
		7	30	39·0	76·1		95·9	
		10	0	39·2	76·3		95·9	
		12	30	38·4	76·0		95·8	
		15	0	38·8	76·1		95·7	
		17	30	39·0	76·2		95·8	
		20	0	39·0	76·1		95·9	
		22	30	39·1	76·2		95·8	
		25	0	39·1	76·2		95·8	
		27	30	38·9	76·3		96·0	
		30	0	38·5	76·2		96·1	
		32	30	37·9	76·2		96·1	
		35	0	38·2	76·2		96·3	
		37	30	38·9	76·2		96·1	
		40	0	38·9	76·1		96·1	
		42	30	38·8	75·9		96·0	
		45	0	38·5	75·9		96·0	
		47	30	38·7	75·8		96·1	
		50	0	38·1	75·5		96·2	
		52	30	37·1	75·5		96·2	
		55	0	37·0	75·6		96·1	
		57	30	37·6	75·8		96·3	

The Mean Positions at the usual hours of observation during the Month, are given in pages 36 and 37.

March 14, 15, 16, and 17, 1841.

Toronto[a] { Decl. 1 Scale Division = 0′·72; H. F. k = ·000076; q = ·0002; V. F. k = ·00009; q = ·00018

Extra observations.

The V. F. was observed at 1^m. 30^s. before, and the H. F. 2^m. after the times specified.

14	18	20	0[b]	55·5	415·8	35	98·4	35
		25	0	55·7	411·6		100·3	
		30	0	59·5	415·8		100·4	
		35	0	62·9	431·2		101·0	

[a] Toronto, March, 1841. — *Times of observation during the Month at which the Magnetometers were disturbed, but the mean readings were not materially changed.*

[*Extract from the Toronto Return of December*, 1841.—The H. F. magnet is said to be "considerably," or "very much" disturbed when it vibrates in an arc of 35 to 45 scale divisions; to be "much" disturbed when it vibrates in an arc of 20 to 35 divisions; "moderately," when in an arc of 10 to 20 divisions; and "slightly," when in an arc of 5 to 10 divisions.

The same terms are used for the Decl. magnet when it vibrates through half the above number of scale divisions.]

d.	h.	
1	20	Magnets much disturbed by irregular movements, or shocks.
2	2	Slightly disturbed; shocks.
3	0 to 2	Much disturbed by shocks, especially the Decl. magnet.
4	2	Slightly disturbed by shocks; the Decl. magnet vibrating considerably at 1^h. 52^m. 30^s. The copper rings prevent the bar from vibrating under ordinary circumstances.
4	22	Much disturbed with shocks; vibrating at 4^d. 22^h. and 5^d. 0^h.
5	0 to 2	H. F. much disturbed by shocks.

March 14, 15, 16, and 17, 1841.									March 14, 15, 16, and 17, 1841.									March 14, 15, 16, and 17, 1841.								
M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.		M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.		M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °	d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °	d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
14	18	40	0	62·9	419·2		105·4		15	1	5	0	53·1	468·5	31	119·7	33	15	3	50	0	56·0	442·6		117·9	
		45	0	49·3	402·3		101·6				15	0	53·0	454·0		119·8			4	5	0	53·1	432·0	36	118·4	36
		50	0	37·6	399·3		98·1				20	0	60·7	466·0		118·5				10	0	51·0	427·0		118·2	
		55	0	33·0	389·3		94·4				25	0	59·6	468·9		118·8				15	0	49·5	416·6		117·7	
	19	5	0	34·6	405·3	35	86·4	36			30	0	61·8	474·6		119·0				20	0	47·3	410·9		116·1	
		10	0	33·7	406·9		90·3				35	0	58·6	475·8		120·3				25	0	48·3	407·7		116·5	
		15	0	32·2	410·2		88·8				40	0	58·1	473·5		119·7				30	0	45·2	401·5		116·4	
		25	0	38·7	395·1		90·9				45	0	57·0	474·1		119·7				35	0	39·7	402·1		116·6	
		30	0	45·2	405·6		88·4			2	40	0	54·8	465·3	32	119·8	34			40	0	34·0	401·9		120·3	
		35	0	48·9	411·2		90·8				45	0	55·5	469·0		119·5				45	0	39·9	401·5		121·4	
		40	0	52·3	385·8		86·8				50	0	57·1	469·4		119·0				50	0	41·4	400·0		121·0	
		45	0	52·7	394·8		85·3				55	0	58·1	469·8		118·8				55	0	40·9	410·2		121·2	
		50	0	56·0	413·6		90·0			3	5	0	62·3	454·0	34	116·8	35		5	5	0	38·7	417·0	37	123·1	37
		55	0	57·2	419·2		94·8				10	0	59·1	464·1		120·2				10	0	37·2	413·3		122·5	
15	0	25	0	59·8	463·3	32	114·4	33			15	0	56·9	467·5		119·4				15	0	37·3	408·1		122·7	
		30	0	58·9	456·5		114·8				20	0	52·0	467·3		119·2				20	0	38·6	403·3		122·6	
		35	0	58·9	459·5		115·0				25	0	54·5	461·8		119·8				25	0	40·0	401·2		122·8	
		40	0	58·0	462·0		114·4				30	0	59·1	457·4		118·3				30	0	40·6	403·7		123·8	
		45	0	59·1	452·8		114·5				35	0	57·8	460·0		118·3				35	0	41·9	405·4		124·4	
		50	0	60·1	466·8						40	0	57·1	458·2		118·5				40	0	41·9	420·6		125·5	
		55	0	60·4	467·4						45	0	57·0	450·4		118·3				45	0	38·8	416·6		126·2	

d.	h.	
10	0	H. F. magnet much disturbed; shocks.
	20	Decl. and V. F. much disturbed; H. F. vibrating moderately at 11^{d}. 0^{h}.
11	0	
11	22	Much disturbed; vibrating with shocks at 12^{d}. 0^{h}.
12	0	
14	18	Magnets much disturbed; vibrating with shocks.
to		
15	6	
16	20	Moderate disturbance; vibrating with shocks.
17	0	
	14	
18	0	Moderate vibrations; shocks.
21	18	Much disturbed; vibrating with shocks.
	20	
22	0	Much disturbed; shocks.
	2	
	4	
	12	
29	0	Much disturbed; vibrating with shocks. Decl. magnet only not vibrating at 29^{d}. 0^{h}.
	2	
30	18	Moderate disturbance; vibrating with shocks.
to		
31	0	

Notices of the Aurora Australis seen from Her Majesty's Ship Terror, during the month of March, 1841, *transmitted by Captain Crozier, R.N.*

Date. Time at Ship.			Ship's Approximate Position. Lat. S.	Long. E.	
d.	h.	m.	°	°	
1	11	0	68·8	168·1	Aurora in the N.W., the rays extending to 10° from the zenith from the base of a dark cloud.
		30			The Aurora extended from N.W. by W., to N.E. by E.
2	12	0	68·3	168·0	The horizon to the South was illuminated by a pale light.
5	9	57	65·7	167·0	Two pale streaks of light in the E.N.E., which lasted about two minutes, commencing at an altitude of thirty degrees.
17	12	0	64·4	152·0	A faint Aurora seen in the S.W. towards midnight.
21	11	0	64·7	140	Observed an Aurora in the N.W. shooting rays of light at an altitude of 6° obliquely towards the horizon.
21	12	0			The Aurora in the N.W. shooting rays of light from behind dark clouds.
to					
14	30				
22	9	0	62·8	139	Observed the Aurora in the North, shooting rays of light towards the zenith.
22	11	20			The Aurora became very brilliant, extending from East to West; the colour was a pale white, shooting pencils of rays of a red tinge to the South and West.
	11	40			The Aurora illuminated the whole heavens, giving a light equal to the moon.
	12	0			The Aurora visible in the zenith till 12^{h}. 30^{m}. Wind unsteady.

Date. Time at Ship.			Ship's Approximate Position. Lat. S.	Long. E.	
d.	h.	m.	°	°	
23	7	50	62	135	Observed the Aurora extending across the zenith in a N.N.W. and S.S.E. direction: between 8^{m}. 20^{s}. and 8^{m}. 40^{s}. the Aurora was very brilliant, shooting pencil rays to the zenith, and forming a canopy of pale bright light from an altitude of 30° over the mast-heads, latterly diffusing, from its radiated appearance, and then disappearing during some of the most brilliant coruscations; stars were visible through it.
to					
8	40				
24	10	0	61	133	An Aurora occasionally very bright from N.W. to E.N.E
25	0	0	60·5	131·5	The Aurora occasionally seen from N.W. to S.E.
	7	0			Observed a bright Aurora from North to East during the night; it occasionally became very bright in the zenith.
27	8	0	58	128·0	An Aurora was observed to form due West, which at 8^{m}. 30^{s}. extended across the zenith in an Easterly direction, until at 9^{m}. 30^{s}., it reached within three degrees of the Eastern horizon, where it appeared to rest upon a massy cloud; it became very brilliant, shooting streams of light in a horizontal direction easterly, showing various colours, bright red, purple, and deep blue, giving a moonlight appearance; at 11^{m}. 20^{s}. it entirely disappeared.
28	8	0	57	127	The Aurora was shooting pencils of rays of pale light from behind dark clouds.
to	11	0			
		30			The Aurora extended from a thick massy cloud in the N.W. across the zenith, to within 6° of the horizon in the S.E., giving a moonlight appearance.
29	0	0	56	129	A brilliant Aurora in the zenith, at times exhibiting rays of crimson, blue, purple, and green light.
	7	30			The Aurora extended from East to West in an arch, shooting bright variegated streams of light from behind a bank of dark clouds which skirted the horizon in that direction; at times very brilliant, and reflected by the sea.
30	0	0	55	132	The Aurora West at an altitude of about 4°, extending in a narrow arch through the zenith, and meeting the Eastern horizon; the part of the arch to the Westward being very bright.
	10	0			The Aurora commenced soon after dark, from East, in a curved line terminating in the West.
	11	30			From 10^{m}. to 11^{m}. 30^{s}. the Aurora was very bright.

[b] The extra observations commenced at midnight of Sunday at Toronto, at which time the Aurora was visible, and is described as follows:—

d. h.

" 14 18 Calm, clear, and unclouded; bright auroral light in the North; a number of faint streamers shooting up from it.

" 14 20 Wind N. by W. light; clear and unclouded; since 18^{h}. the features of the Aurora have been continually changing from arches of light, to detached banks and patches; some very vivid pulsations occurred about 19^{h}.; nothing now appearing except two very faint streamers in the N. W.

" 14 22 Calm, clear, and unclouded; a bright bank of light remaining in the North."

March 14, 15, 16, and 17, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
15	5	50	0	42·5	424·7		126·2	
		55	0	41·4	437·8		126·2	
	6	5	0	42·5	444·7	39	126·8	38
		10	0	40·9	449·4		126·8	
		15	0	43·5	459·7		127·0	
		20	0	41·8	467·5		127·5	
		25	0	43·2	466·7		127·7	
		30	0	43·4	473·9		127·7	
		35	0	42·8	476·5		127·0	
		40	0	43·8	487·0		127·0	
		45	0	44·9	488·6		127·1	
		50	0	44·0	488·8		127·3	
	8	30	0	45·4	483·3	40	125·4	40
	9	0	0	49·7	476·0	41	125·0	40
		30	0	56·1	499·0	41	129·5	40

Positions at the usual hours of observation, from March 14th, 18h. to March 17th, 6h.

14	18	0	0	57·2	402·4	35	94·2	35
	20	0	0	57·7	437·2	34	98·9	35
	22	0	0	59·4	414·3	33	99·1	35
15	0	0	0	58·5	467·7	32	112·4	33
	2	0	0	57·7	457·5	32	116·9	34
	4	0	0	53·7	427·0	35	111·7	36
	6	0	0	43·2	423·5	39	115·3	39
	8	0	0	45·9	467·0	40	111·8	40
	10	0	0	51·0	460·0	41	112·0	41
	12	0	0	54·5	443·8	40	115·3	40
	14	0	0	48·3	458·0	40	114·3	40
	16	0	0	63·4	450·0	38	109·3	39
	18	0	0	44·5	450·2	38	101·1	38
	20	0	0	65·2	436·6	37	100·9	37
	22	0	0	46·1	460·8	37	107·6	38
16	0	0	0	59·8	474·8	36	112·3	37
	2	0	0	64·5	475·7	36	111·9	37
	4	0	0					
	6	0	0					
	8	0	0	[a]				
	10	0	0					
	12	0	0					
	14	0	0	54·2	442·3			
	16	0	0	52·4	460·5	41	104·1	42
	18	0	0	57·5	461·9	38	101·3	39
	20	0	0	55·2	472·5	37	103·3	38
	22	0	0	53·6	470·7	37	102·3	37
17	0	0	0	49·8	459·7	35	100·1	36
	2	0	0	58·4	474·7	36	102·2	36
	4	0	0	52·7	449·7	39	100·9	39
	6	0	0	47·9	450·4	41	98·9	41

Mean Positions at the usual hours of observation during the Month.[b]

	0	0	0	55·7	473·3	38	109·2	42
	2	0	0	57·9	468·0	38	110·2	42
	4	0	0	55·0	455·5	39	107·1	43
	6	0	0	47·3	453·0	41	106·3	44
	8	0	0	45·1	461·3	42	106·0	45

March 14, 15, 16 and 17, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
	10	0	0	47·8	463·6	43	105·9	46
	12	0	0	51·0	459·3	43	106·5	46
	14	0	0	53·0	462·8	42	107·3	46
	16	0	0	54·0	460·9	41	107·7	45
	18	0	0	54·2	461·4	40	106·7	44
	20	0	0	53·3	465·1	39	107·2	43
	22	0	0	55·2	467·1	39	107·3	42

St. Helena { Decl. 1. Scale Division = 0′·71
H. F. k = ·000180; q = ·00025

Positions at the usual hours of observation, from March 14th, 14h. to March 17th, 6h.

14	14	0	0[c]	35·0	[d]			
	15	0	0	35·8				
	16	0	0	35·8				
	18	0	0	35·1				
	19	30	0	36·4				
	20	0	0	35·5				
	20	30	0	33·0				
	22	0	0	31·2				
	23	0	0	31·3				
15	0	0	0	34·4				
	2	0	0	37·4				
	3	0	0	38·7				
	4	0	0	36·5				
	5	0	0	34·9				
	6	0	0	34·1				
	8	0	0	36·3				
	10	0	0	37·0				
	11	0	0	37·4				
	12	0	0	38·1				
	13	0	0	38·0				
	14	0	0	38·2	36·3	72		
	15	0	0	39·1	39·0	71		
	16	0	0	40·0	40·0	71		
	18	0	0	39·3	49·2	71		
	19	30	0	41·4	50·8	71		
	20	0	0	41·6	53·1	71		
	20	30	0	41·4	52·3	70		
	22	0	0	37·6	57·5	70		
	23	0	0	38·0	61·6	71		
16	0	0	0	38·0	65·0	71		
	2	0	0	36·1	63·9	71		
	3	0	0	35·0	62·1	72		
	4	0	0	33·9	56·0	72		
	5	0	0	32·7	46·6	72		
	6	0	0	33·2	43·0	72		
	8	0	0	38·0	47·4	71		
	10	0	0	37·0	47·0	71		
	11	0	0	38·8	52·6	71		
	12	0	0	38·3	50·0	71		
	13	0	0	38·0	49·0	71		
	14	0	0	37·3	48·5	71		
	15	0	0	37·4	49·4	71		
	16	0	0	37·6	50·5	71		
	18	0	0	38·0	51·1	70		
	19	30	0	40·0	54·0	70		
	20	0	0	38·1	55·2	70		

March 14, 15, 16 and 17, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
16	20	30	0	36·8	57·1	70		
	22	0	0	33·8	62·0	70		
	23	0	0	35·2	62·0	70		
17	0	0	0	37·8	63·8	70		
	2	0	0	37·8	62·4	71		
	3	0	0	36·1	60·0	71		
	4	0	0	33·8	55·8	71		
	5	0	0	35·0	55·0	71		
	6	0	0	37·6	54·9	71		

Mean Positions at the same hours during the Month.[e]

	0	0	0	38·3	65·5	70		
	2	0	0	40·2	63·7	71		
	3	0	0	39·1	59·8	71		
	4	0	0	37·6	56·3	71		
	5	0	0	36·9	54·5	72		
	6	0	0	37·2	52·9	72		
	8	0	0	39·0	52·8	71		
	10	0	0	39·0	52 7	70		
	11	0	0	39·3	53·1	70		
	12	0	0	39·4	54·5	70		
	13	0	0	39·1	55·2	70		
	14	0	0	38·9	54·7	70		
	15	0	0	38·9	54·4	70		
	16	0	0	39·0	54·8	70		
	18	0	0	39·1	56·0	69		
	19	30	0	39·6	57·0	69		
	20	0	0	38·3	58·0	69		
	20	30	0	37·1	58·9	69		
	22	0	0	35·3	62·7	69		
	23	0	0	36·5	64·5	69		

Van Diemen Island { Decl. 1 Scale Division = 0′·71
H. F. k = ·0003; q =
V. F. k = ; q =

Extra observations.

The V. F. was observed at 2m. 30s. before, and the H. F. 2m. 30s. after the times specified.

15	5	10	0	42·5	78·5	68	88·3	67
		15	0	44·2				
		20	0	46·7	77·4		88·8	
		25	0	49·9				
		30	0	44·7	69·1		88·8	
		35	0	37·7				
		40	0	32·4	71·2		89·4	
		45	0	31·1				
		50	0	34·9	76·9		89·1	
	6	10	0[f]	43·4	75·2	66	88·5	66
		15	0	41·7				
		20	0	41·7	74·6		88·6	
		25	0	42·4				
		30	0	42·1	73·7		89·5	
		35	0	42·4				
		40	0	43·4	72·4		90·3	
		45	0	44·2				
		50	0	44·6	71·2		92·2	

[a] During these hours the instruments were employed in observations of the absolute horizontal intensity.

[b] The mean positions of the H. F. magnet are from the 1st to the 15th of March, inclusive; and of the V. F. magnet from the 2nd to the 15th, inclusive.

[c] Commencing after midnight on Sunday at St. Helena.

[d] The H. F. magnet was undergoing adjustment until 15d. 14h.

[e] The mean positions of the Decl. magnet are from the 1st to the 22nd of March, inclusive; and those of the H. F. magnet from the 16th to the 31st of March, inclusive; the connexion of the daily observations with the mean positions of the H. F. magnet, cannot be regarded as strictly determined, for the reasons assigned in page 37.

[f] "Calm; clear moonlight; heavy dew; no appearance of Aurora from the top of the hill near the Observatory."

March 14, 15, 16, and 17, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
16	6	10	0	43·2	78·7	66		66
		15	0	46·7				
		20	0	49·2	77·5		92·7	
		25	0	53·5				
		30	0	54·9	74·1		94·4	
		35	0	54·9				
		40	0	55·7	72·7		96·3	
		45	0	57·0				
		50	0	56·9	72·7		97·2	
	7	15	0	53·5		66		65
		20	0	51·4	74·6		94·1	
		25	0	50·3				
		30	0	47·5	74·2		93·5	
		35	0	48·6				
		40	0	47·4			93·3	

Positions at the usual hours of observation, from March 14th, 10h., to March 17th, 6h.

14	10	0	0	46·9	83·4	61	94·0	61
	11	0	0	38·4	79·9		93·2	
	12	0	0	41·1	75·7	63	95·8	62
	13	0	0	47·8	71·8		96·7	
	14	0	0	53·8	69·7	67	96·6	67
	15	0	0	58·1	69·9		95·2	
	16	0	0	62·8	67·9	71	95·6	71
	17	0	0	63·0	67·0		95·7	
	18	0	0	67·2	72·2	74	94·8	72
	19	0	0	64·5	67·6		96·5	
	20	0	0	52·2	65·7	75	96·2	72
	21	0	0	50·5	65·9		97·1	
	22	0	0	49·0	65·5	72	97·8	69
	23	0	0	45·6	68·0		97·7	
15	0	0	0	44·4	78·3	69	92·4	69
	1	0	0	45·0	70·8		92·6	
	2	0	0	50·5	73·5	69	93·8	69
	3	0	0	44·9	73·6		92·2	
	4	0	0	43·6	74·9	68	91·7	68
	5	0	0	38·3	78·4		88·3	
	6	0	0	40·5	77·1	66	88·5	66
	7	0	0	46·8	81·1		93·5	
	8	0	0	44·3	72·7	64	93·5	63
	9	0	0	49·6	72·2		96·3	
	10	0	0	46·1	74·0	63	94·7	62
	11	0	0	48·2	70·9		95·9	
	12	0	0	47·0	72·5	64	93·7	64
	13	0	0	45·0	72·6		91·6	
	14	0	0	46·5	71·4	68	91·2	69
	15	0	0	48·6	68·1		93·0	
	16	0	0	53·5	68·0	73	93·2	72
	17	0	0	56·5	68·7		92·7	
	18	0	0	53·4	71·0	75	92·1	73
	19	0	0	55·1	69·3		94·6	
	20	0	0	55·6	69·3	75	95·1	73
	21	0	0	50·6	70·4		94·8	
	22	0	0	47·1	72·3	73	93·8	71
	23	0	0	49·4	74·5		93·9	
16	0	0	0	49·6	75·1	71	93·9	69
	1	0	0	47·6	76·0		93·9	
	2	0	0	47·3	75·8	68	94·5	67
	3	0	0	48·4	75·8		95·1	
	4	0	0	47·5	77·6	67	95·9	66
	5	0	0	43·7	83·1		90·2	
	6	0	0	40·9	78·7	66	92·1	65

March 14, 15, 16, and 17, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
16	7	0	0	57·1	73·2		96·3	
	8	0	0	48·3	74·5	65	92·3	65
	9	0	0	46·7	76·6		93·3	
	10	0	0	45·9	75·5	63	94·7	63
	11	0	0	49·6	71·3		97·2	
	12	0	0	46·5	73·6	64	94·2	65
	13	0	0	47·2	73·8		93·0	
	14	0	0	50·9	70·1	69	93·7	70
	15	0	0	54·4	69·5		91·8	
	16	0	0	57·3	69·8	74	91·0	73
	17	0	0	58·3	70·9		90·9	
	18	0	0	54·1	69·5	76	92·3	73
	19	0	0	54·6	71·0		91·7	
	20	0	0	52·6	71·2	76	92·0	72
	21	0	0	52·1	72·5		91·7	
	22	0	0	50·6	73·1	73	92·6	71
	23	0	0	44·5	74·3		91·0	
17	0	0	0	43·5	75·6	71	91·7	69
	1	0	0	44·3	76·5		91·8	
	2	0	0	47·4	75·4	69	93·2	68
	3	0	0	48·6	74·3		94·0	
	4	0	0	52·0	75·9	69	94·4	67
	5	0	0	50·7	76·2		93·4	
	6	0	0	49·6	76·8	67	93·9	66

Mean Positions at the same hours during the Month.

0	0	0	48·0	76·2	68	93·3	66
1	0	0	47·4	76·5		93·4	
2	0	0	46·4	76·4	67	93·4	65
3	0	0	47·4	76·8		93·5	
4	0	0	47·6	77·1	65	94·1	64
5	0	0	47·5	77·6		93·7	
6	0	0	48·3	77·7	64	94·1	63
7	0	0	48·7	78·2		94·6	
8	0	0	48·0	78·1	63	94·3	62
9	0	0	47·0	78·0		94·7	
10	0	0	45·7	77·7	62	95·0	61
11	0	0	43·4	76·6		94·3	
12	0	0	43·4	75·4	63	94·2	63
13	0	0	45·9	74·0		94·4	
14	0	0	50·0	72·9	66	94·2	66
15	0	0	53·9	72·7		94·0	
16	0	0	56·7	72·9	69	93·4	69
17	0	0	57·6	73·8		93·2	
18	0	0	57·1	74·4	72	92·9	69
19	0	0	54·1	74·0		93·2	
20	0	0	51·8	74·2	72	93·1	69
21	0	0	50·8	74·1		93·2	
22	0	0	50·2	75·0	70	93·3	67
23	0	0	48·9	75·8		93·3	

March 22 and 23, 1841.

Toronto

Decl. 1 Scale Division = 0′·72
H. F. k = ·000076; q = ·0002
V. F. k = ·00009; q = ·00018

Extra observations.

The V. F. was observed at 3m. 30s. before, and the H. F. 2m. after the times specified.

22	4	30	0	44·9	432·2	42	96·1	43
		35	0	48·3	425·2		95·9	
		40	0	42·1	422·6		97·1	

March 22 and 23, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
22	4	45	0	40·7	420·0		96·3	
		50	0	39·0	438·1		96·5	
		55	0	40·8	445·4		95·7	
	5	5	0	38·8	445·3	42	97·1	44
		10	0	37·9	434·7		96·7	
		15	0	38·0	434·7		95·1	
		20	0	42·0	443·7		95·0	
		25	0	42·5	448·7	43	95·1	44
		30	0	41·1	452·4		95·2	
		35	0	44·1	437·6		95·2	
		40	0	43·2	439·5		95·2	
		45	0	42·5	440·5		95·3	
		50	0	43·0	429·6		96·8	
		55	0	41·3	421·9		94·6	
	6	30	0	41·3	459·9	44	98·2	44
	7	0	0	37·5	449·3	44	100·1	44
	7	30	0	39·2	454·1	44	97·5	44
	8	30	0	40·2	478·7	44	98·5	44
	9	0	0	37·7	484·5	45	100·3	45
	9	30	0	43·1	450·3	45	106·1	45
	10	30	0	46·9	430·7	45	112·6	45

Positions at the usual hours of observation, from March 21st, 18h. to March 23rd, 18h.

21	18	0	0[a]	58·6	455·2	44	92·0	44
	20	0	0	69·3	454·4	43	86·4	44
	22	0	0	58·9	474·0	44	94·6	44
22	0	0	0	63·8	474·9	43	93·8	44
	2	0	0	73·1	458·1	42	93·8	43
	4	0	0	39·2	411·4	42	93·4	43
	6	0	0	37·6	418·0	44	98·0	44
	8	0	0	41·7	488·5	44	97·1	44
	10	0	0	44·4	441·1	45	108·2	45
	12	0	0	68·2	460·0	45	102·2	45
	14	0	0	57·5	437·8	45	98·2	45
	16	0	0	68·7	474·5	45	91·2	45
	18	0	0	47·8	435·8	44	90·3	45
	20	0	0	44·5	396·0	44	67·2	45
	22	0	0	61·6	447·7	45	81·6	45
23	0	0	0	58·6	449·0	45	87·3	46
	2	0	0	52·6	435·0	46	86·7	46
	4	0	0	56·8	437·6	46	88·9	46
	6	0	0	45·4	423·4	47	89·0	47
	8	0	0	44·9	443·3	48	90·3	47
	10	0	0	42·8	450·2	49	90·2	48
	12	0	0	53·1	440·5	49	92·4	49
	14	0	0	56·3	443·7	48	90·7	49
	16	0	0	52·0	419·4	48	88·8	48
	18	0	9	56·6	450·6	48	89·9	48

Mean Positions at the same hours during the Month.[b]

0	0	0	55·7	458·4	45	88·4	42
2	0	0	57·9	453·4	45	89·6	42
4	0	0	55·0	436·9	46	87·8	43
6	0	0	47·3	430·3	48	87·1	44
8	0	0	45·1	447·3	49	87·4	45
10	0	0	47·8	448·9	50	88·7	46
12	0	0	51·0	447·4	50	88·9	46
14	0	0	53·0	441·5	49	89·8	46
16	0	0	54·0	447·4	48	87·7	45
18	0	0	54·2	450·5	46	88·6	44
20	0	0	53·3	458·1	46	84·9	43
22	0	0	55·2	455·1	45	87·9	43

[a] Commencing at midnight of Sunday, at Toronto.

[b] The mean positions of the H. F. and V. F. magnets, are from the 17th to the 31st of March, inclusive.

March 22 and 23, 1841.

St. Helena { Decl. 1 Scale Division = 0′·71
H. F. k = ·00018; q = ·00025

Extra observations.

The H. F. was observed at 0m. 30s. after the times specified.

M. Gött. Time.	Decl.	Hor. Force.		Vert. Force.	
d. h. m. s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. ○	Sc.-Div^{ns}.	Ther. ○
22 2 13 36		68·0	70		
18 36	40·9	67·0			
23 36	41·5	67·2			
28 36	41·9	67·1			
33 36	41·1	65·6			
38 36	40·9	63·1			
43 36	39·2	61·0			
48 36	38·2	58·9			
53 36	37·2	55·8			
58 36	37·2	54·1			
3 3 36	37·2	52·3	70		
8 36	37·2	51·0			
13 36	37·2	49·8			
18 36	37·2	48·0			
23 36	37·8	47·3			
28 36	37·8	46·0			
33 36	37·8	47·9			
38 36	35·2	47·9			
43 36	35·2	48·0			
48 36	35·0	48·0			
53 36	34·8	47·5			
58 36	34·2	47·0			
4 3 36	33·8	46·6	70		
8 36	33·8	45·8			
13 36	34·0	44·3			
18 36	34·2	43·2			
23 36	34·2	43·0			
28 36	33·2	43·1			
33 36	32·8	42·8			
38 36	32·9	41·5			
43 36	33·2	40·0			
48 36	33·2	40·4			
53 36	32·5	40·3			
58 36	32·4	40·3			
5 3 36	32·2	40·4	70		
8 36	32·5	40·7			
13 36	32·8	40·0			
18 36	33·0	40·1			
23 36	32·8	40·9			
28 36	32·2	41·1			
33 36	32·3	40·0			
38 36	32·4	38·4			
43 36	32·1	37·0			
48 36	32·4	36·0			
53 36	32·3	35·0			
58 36	32·2	34·8			
6 3 36	32·2	34·7	71		
8 36	32·4	35·2			
13 36	32·4	36·0			
18 36	32·8	38·0			
23 36	33·6	39·8			
28 36	33·8	40·0			
33 36	33·9	40·0			
38 36	34·1	40·0			
43 36	34·6	39·8			
48 36	35·0	39·4			
53 36	35·2	39·0			
58 36	35·4	38·4			
7 3 36	35·5	38·4	71		
8 36	35·5	38·1			

March 22 and 23, 1841.

M. Gött. Time.	Decl.	Hor. Force.		Vert. Force.	
d. h. m. s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. ○	Sc.-Div^{ns}.	Ther. ○
22 7 13 36	35·5	38·8			
18 36	35·6	38·9			
23 36	35·9	39·0			
28 36	36·0	39·5			
33 36	36·1	40·0			
38 36	36·1	40·2			
43 36	36·2	40·5			
48 36	36·2	40·6			
53 36	36·1	41·5			
58 36	36·0	42·0			
8 3 36	36·0	42·0	70		
8 36	36·1	40·9			
13 36	36·1	39·9			
18 36	36·0	39·1			
23 36	36·0	38·3			
28 36	35·8	38·8			
33 36	35·3	39·0			
38 36	34·9	39·1			
43 36	34·8	39·9			
48 36	34·8	39·1			
53 36	35·1	39·5			
58 36	35·9	39·9			
9 3 36	36·0	40·8	70		
8 36	36·0	41·2			
13 36	36·0	42·0			
18 36	36·0	43·1			
23 36	36·0	43·9			
28 36	36·0	44·5			
33 36	35·8	44·9			
38 36	35·2	44·9			
43 36	35·0	44·3			
48 36	35·0	44·0			
53 36	35·1	43·1			
58 36	35·4	42·8			
10 3 36	35·9	41·9	70		
8 36	36·0	41·0			
13 36	36·0	40·0			
18 36	36·0	39·8			
23 36	36·0	39·1			
28 36	36·1	39·0			
33 36	36·1	39·0			
38 36	36·0	39·1			
43 36	36·1	39·8			
48 36	36·1	39·8			
53 36	36·0	39·9			
58 36	36·0	39·9			
11 3 36	36·1	40·0	70		
8 36	36·2	40·9			
13 36	36·5	41·1			
18 36	36·9	43·9			
23 36		46·2			
28 36	37·0				
33 36	37·8	48·9			
38 36	38·1	51·1			
43 36	38·9	52·0			
48 36	38·9	52·5			
53 36	38·9	52·8			
58 36	38·9	52·8			
12 3 36	39·0	53·0	70		
8 36	39·0	53·1			
18 36	39·1	52·9			
23 36	39·1	52·0			
33 36	39·1	50·2			
38 36	38·5	50·9			
43 36	38·2	50·9			
48 36	38·3	50·9			
53 36	38·1	50·9			

March 22 and 23, 1841.

M. Gött. Time.	Decl.	Hor. Force.		Vert. Force.	
d. h. m. s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. ○	Sc.-Div^{ns}.	Ther. ○
22 12 58 36	38·1	50·8			
13 3 36	38·3	50·7	69		
8 36	38·4	50·2			
13 36	38·4	50·2			
18 36	38·4	50·2			
23 36	38·1	50·2			
28 36	37·9	50·2			
33 36	37·9	50·3			
38 36	37·9	50·3			
43 36	38·0	50·5			
48 36	38·3	50·8			
53 36	38·5	51·2			
58 36	38·6	51·8			
14 3 36	38·8	52·1	69		
8 36	38·9	52·1			
13 36	38·9	52·1			
18 36	38·8	52·2			
23 36	38·6	52·1			
28 36	38·4	52·3			
33 36	38·5	52·4			
38 36	38·4	52·3			
43 36	38·4	52·0			
48 36	38·5	52·0			
53 36	38·6	51·8			
58 36	38·5	51·4			
15 3 36	38·5	51·6	69		
8 36	38·5	51·6			
13 36	38·6	51·9			
18 36	38·6	52·1			
23 36	39·0	52·8			
28 36	39·3	53·3			
33 36	39·4	53·7			
38 36	39·5	54·1			
43 36	39·9	54·4			
48 36	39·9	54·8			
53 36	40·1	54·7			
58 36	39·9	54·2			
16 3 36	39·6	54·3	69		
8 36	39·4	54·2			
13 36	39·1	54·2			
18 36	38·9	54·1			
23 36	38·8	54·0			
28 36	38·7	53·9			
33 36	38·5	53·9			
38 36	38·5	53·3			
43 36	38·5	53·4			
48 36	38·5	53·3			
53 36	38·6	53·3			
58 36	38·7	53·7			
17 3 36	38·9	53·6	69		
8 36	39·1	53·9			
13 36	39·1	54·0			
18 36	39·1	54·1			
23 36	39·1	54·5			
28 36	39·1	54·9			
33 36	39·1	54·9			
38 36	39·1	54·8			
43 36	39·0	54·1			
48 36	39·0	54·3			
53 36	39·0	54·1			
58 36	39·0	54·1			
18 3 36	38·9	54·4	69		
8 36	39·0	54·8			
13 36	39·0	54·9			
18 36	39·0	54·8			
23 36	39·0	54·4			
28 36	39·0	54·0			

March 22 and 23, 1841.

M. Gött. Time.	Decl.	Hor. Force.		Vert. Force.	
d. h. m. s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
22 18 33 36	39·0	52·9			
38 36	38·9	53·5			
43 36	38·9	53·0			
48 36	38·9	54·2			
53 36	38·9	53·9			
58 36	39·0	54·3			
19 3 36	39·1	54·9	69		
8 36	39·2	55·1			
13 36	39·6	55·8			
18 36	39·9	56·9			
23 36	40·1	55·9			
28 36	40·2	55·8			
33 36	40·0	55·2			
38 36	40·0	54·9			
43 36	39·5	54·5			
48 36	38·0	54·0			
53 36	38·9	53·9			
58 36	38·1	53·7			
20 3 36		53·5	69		
8 36	37·9	53·4			
13 36	37·8	53·7			
28 36	37·1	52·9			
33 36		52·5			
38 36	37·1	52·8			
43 36	37·1	52·5			
48 36	37·1	52·8			
53 36	37·1	52·9			
58 36	37·0	53·4			
21 3 36	37·0	53·2	69		
8 36	37·0	54·0			
13 36	36·9	54·4			
18 36	36·9	54·9			
23 36	37·0	55·6			
28 36	37·0	55·9			
33 36	37·0	56·0			
38 36	37·0	56·0			
43 36	36·9	56·1			
48 36	36·6	56·1			
53 36	36·4	56·2			
58 36	36·1	56·1			
22 3 36	36·0	56·3	69		
8 36	36·1	56·2			
13 36	36·3	56·1			
18 36	36·5	56·5			
23 36	36·9	57·0			
28 36	37·0	57·0			
33 31	37·1	57·0			
38 36	37·7	57·2			
43 36	38·0	57·3			

Positions at the usual hours of observation, from March 21st, 14^h., to March 23rd, 23^h.

21 14 0 0	39·8	62·2	68		
15 0 0	39·5	59·2	69		
16 0 0	39·3	60·0	68		
18 0 0	40·0	62·3	68		
19 30 0	41·2	70·0	69		
20 0 0	39·6	68·3	69		
20 30 0	37·1	68·2	69		
22 0 0	35·1	67·0	68		
23 0 0	36·8	69·6	68		
22 0 0 0	39·4	73·9	69		

March 22 and 23, 1841.

M. Gött. Time.	Decl.	Hor. Force.		Vert. Force.	
d. h. m. s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
22 2 0 0	42·6	75·0	70		
3 0 0	37·2	52·3	70		
4 0 0	34·2	46·8	70		
5 0 0	32·4	40·3	70		
6 0 0	32·2	34·5	71		
8 0 0	36·0	42·1	70		
10 0 0	35·4	42·3	70		
11 0 0	36·1	39·9	70		
12 0 0	38·9	52·8	70		
13 0 0	38·1	50·9	69		
14 0 0	38·6	52·2	69		
15 0 0	38·5	51·4	69		
16 0 0	39·9	54·2	69		
18 0 0	39·0	54·1	69		
19 30 0	40·2		69		
20 0 0	38·2	53·5	69		
20 30 0	37·1	53·0	69		
22 0 0	36·1	56·1	69		
23 0 0	38·4	57·0	69		
23 0 0 0[a]	41·0	56·8	70		
2 0 0		53·0	71		
3 0 0	33·9	51·5	71		
4 0 0	33·0	51·8	71		
5 0 0	32·0	51·2	72		
6 0 0	32·0	51·3	72		
8 0 0	35·0	52·1	72		
10 0 0	33·8	50·1	71		
11 0 0	36·0	54·9	71		
12 0 0	35·4	51·4	71		
13 0 0	35·8	51·9	71		
14 0 0	36·0	54·3	70		
15 0 0	37·0	55·9	70		
16 0 0	37·2	55·2	70		
18 0 0	37·1	53·9	69		
19 30 0	36·1	55·2	69		
20 0 0	35·0	56·1	69		
20 30 0	33·2	57·9	69		
22 0 0	32·9	61·9	69		
23 0 0	35·0	63·0	69		

The Mean Positions of the H. F. magnet at the same hours during the Month are given in page 48, as are also the Mean Positions of the Decl. magnet up to March 23rd, 0^h., at which time the connexion of the series was broken.

Van Diemen Island { Decl. 1 Scale Division = 0′·71 ; H. F. k = ·0003; q = ; V. F. k = ; q =

Extra observations.

The V. F. was observed at 2^m. 30^s. before, and the H. F. 2^m. 30^s. after the times specified.

22 2 12 30	41·3				
17 30	45·3	74·1		92·8	
22 30	49·3				
27 30	49·9	73·3		92·8	
32 30	50·3				
37 30	52·4	75·6		92·5	
42 30	57·0		68		66
47 30	57·3	78·8		91·5	

March 22 and 23, 1840.

M. Gött. Time.	Decl.	Hor. Force.		Vert. Force.	
d. h. m. s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
22 3 10 0	28·4	73 8		78·9	
15 0	28·8				
20 0	28·5	71·9		79·6	
25 0	29·3				
30 0	36·0	73·2		82·1	
35 0	40·2				
40 0	42·9	72·4		84·8	
45 0	44·2				
50 0	42·2	70·5		85·6	
4 10 0	37·1	72·0	69	85·2	69
15 0	32·2				
20 0	28·4	71·7		82·7	
25 0	28·6				
30 0	29·1	71·1		82·5	
35 0	30·2				
40 0	28·9	70·9		83·2	
45 0	27·3				
50 0	28·5	70·6		82·7	
5 10 0	29·5	68·8		85·0	
15 0	27·3				
20 0	27·9	68·5		84·1	
25 0	28·3				
30 0	30·3	66·9		84·4	
35 0	34·4				
40 0	40·5	66·3		87·9	
45 0	44·3				
50 0	55·5	70·2		89·5	
6 10 0	59·3	75·6	70		69
15 0	54·1				
20 0	51·7	74·0		82·2	
25 0	48·9				
30 0	46·4	74·0		81·7	
35 0	43·1				
40 0	41·1	73·8		80·5	
45 0	39·7				
50 0	39·9	75·1		80·5	
7 10 0	38·7	75·9			
15 0	40·6				
20 0	40·7	73·7			
25 0	41·6				
30 0	43·7	72·4			
35 0	44·8				
40 0	45·1	70·9			
45 0	47·9				
50 0	48·8	72·2			
10 10 0		69·5	67		67
15 0	62·5				
20 0	62·8	72·1		93·6	
25 0	60·1				
30 0	58·8	73·4		90·4	
35 0	55·9				
40 0	54·8	72·7		88·4	
45 0	53·7				
50 0	54·1	73·0		88·2	
11 10 0		72·1			
15 0	50·4				
20 0	50·1	71·0		87·6	
25 0	48·5				
20 10 0	43·6	69·2	81	87·7	76
15 0	42·3				
20 0	43·2	69·1		88·5	
25 0	43·9				
30 0	44·1	65·6		89·1	
35 0	43·1				

[a] At 23^d. 2^h. the Decl. magnet was employed in observations on the absolute horizontal intensity, whereby the connexion of the differential series was broken; the subsequent observations with this instrument are therefore unconnected with the preceding ones.

March 22 and 23, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. ○	Sc.-Div^{ns}.	Ther. ○
22	20	40	0	43·9	66·8		90·5	
		45	0	45·9				
		50	0	47·2	66·8		91·4	

Positions at the usual hours of observation, from March 21st, 14^h. to March 23rd, 23^h.

21	14	0	0	51·4	75·7	63	93·8	62
	15	0	0	55·6	76 4		92·3	
	16	0	0	56·1	76·5	66	91·7	64
	17	0	0	58·6	77·3		91·7	
	18	0	0	60·3	79·2	68	92·8	65
	19	0	0	57·8	73·4		94·8	
	20	0	0	60·2	74·6	67	94·2	67
	21	0	0	54·7	74·6		92·7	
	22	0	0	53·3	77·7	69	90·5	67
	23	0	0	52·6	76·6		91·5	
22	0	0	0	51·3	76·8	68	91·7	67
	1	0	0	49·1	77·6		91·3	
	2	0	0	42·1	76·4	67	89·1	66
	3	0	0	39·6	74·7		80·7	
	4	0	0	39·1	71·0	69	86·0	69
	5	0	0	32·1	69·7		84·6	
	6	0	0	68·2	73·7	70	89·3	69
	7	0	0	41·0	74·0			
	8	0	0	50·5	71·9	69	89·3	69
	9	0	0	52·2	72·5		90·2	
	10	0	0	59·6	68·5	67	94·7	67
	11	0	0	52·5	73·0		87·3	
	12	0	0	46·0	67·9	68	90·0	67
	13	0	0	50·7	68·7		91·2	
	14	0	0	50·9	69·6	69	89·9	67
	15	0	0	52·6	69·6		89·5	
	16	0	0	54·8	68·0	74	90·2	73
	17	0	0	54·8	70·1		87·6	
	18	0	0	56·4	69·1	79	88·5	75
	19	0	0	48·3	67·3		89·7	
	20	0	0	40·6	71·7	81	87·9	76
	21	0	0	47·7	67·1		91·2	
	22	0	0	49·6	66·9	80	91·2	76
	23	0	0	48·8	69·2		89·7	
23	0	0	0	46·0	68·1	77	91·0	74
	1	0	0	42·6	69·7		89·1	
	2	0	0	34·1	67·7	74	88·9	73
	3	0	0	48·4	69·3		90·0	
	4	0	0	55·2	70·7	73	90·6	71
	5	0	0	54·3	73·5		87·7	
	6	0	0	47·8	72·8	71	89·0	70
	7	0	0	48·5	74·4		90·4	
	8	0	0	49·3	74·9	68	91·2	67
	9	0	0	49·4	74·4		91·9	
	10	0	0	49·1	75·5	66	93·3	65
	11	0	0	47·1	73·6		93·3	
	12	0	0	47·6	73·6	66	92·1	66
	13	0	0	46·2	73·4		90·6	
	14	0	0	48·1	71·6	69	90·3	69
	15	0	0	51·5	67·7		92·0	
	16	0	0	53·9	66·8	72	92·0	72
	17	0	0	55·8	68·2		91·3	
	18	0	0	55·2	71·5	74	89·1	73
	19	0	0	52·0	69·2		91·3	
	20	0	0	51·3	71·0	76	90·7	72

March 22 and 23, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. ○	Sc.-Div^{ns}.	Ther. ○
23	21	0	0	51·1	71·7		99·7	
	22	0	0	49·9	72·9	73	91·0	71
	23	0	0	46·5	70·4		92·0	

The Mean Positions at the same hours during the Month are given in page 49.

April 18, 19, 20, and 21, 1841.

Toronto { Decl. 1 Scale Division = 0′·72; H. F. k = ·000076; q = ·0002; V. F. k = ·00009; q = ·00018

Positions at the usual hours of observation, April 18, 19, 20, and 21.

18	18	0	0[a]	48·2	49·1	44	84·7	45
	20	0	0	55·4	42·1	44	79·8	44
	22	0	0	52·7	68·4	43	85·0	44
19	0	0	0	55·2	60·1	44	86·6	45
	2	0	0	57·2	65·4	44	87·0	45
	4	0	0	50·1	32·5	45	85·1	45
	6	0	0	44·1	50·1	46	85·1	46
	8	0	0	41·1	55·6	49	83·1	48
	10	0	0	39·8	63·8	50	86·1	49
	12	0	0	40·8	53·4	50	91·5	50
	14	0	0	42·9	53·7	50	86·2	50
	16	0	0	47·9	41·7	49	86·4	49
	18	0	0	52·6	31·1	48	81·3	48
	20	0	0	54·0	53·6	47	79·5	48
	22	0	0	45·6	45·4	47	67·1	47
20	0	0	0	57·4	65·4	46	75·9	47
	2	0	0	56·5	50·7	46	83·5	46
	4	0	0	52·6	38·5	46	84·4	46
	6	0	0	44·0	22·2	46	87·8	46
	8	0	0	40·8	67·5	47	91·1	47
	10	0	0	45·9	61·4	47	93·8	47
	12	0	0	44·1	53·1	47	92·7	47
	14	0	0	57·8	57·0	47	87·0	47
	16	0	0	61·2	45·0	46	86·5	46
	18	0	0	66·2	28·1	45	71·6	46
	20	0	0	53·9	64·5	45	86·5	46
	22	0	0	42·2	43·0	44	84·0	45
21	0	0	0	57·0	68·3	45	84·0	45
	2	0	0	57·3	50·0	46	84·7	46
	4	0	0	49·9	37·2	48	81·9	48
	6	0	0	47·5	44·5	49	81·3	49
	8	0	0	44·8	54·9	51	81·2	50
	10	0	0	46·6	59·4	52	80·9	52
	12	0	0	52·4	52·4	54	81·3	53
	14	0	0	55·2	36·0	53	79·8	54
	16	0	0	52·6	54·8	52	71·8	53
	18	0	0	54·2	45·2	51	76·5	52
	20	0	0	53·6	44·0	50	77·8	51
	22	0	0	58·5	53·6	49	77·6	49

Mean Positions at the same hours during the Month.

0	0	0	55·1	62·8	48	82·0	48
2	0	0	56·1	52·8	48	82·2	48
4	0	0	51·9	37·7	49	80·2	49
6	0	0	43·4	34·1	50	79·6	50
8	0	0	40·7	50·6	51	80·4	51

[a] Commencing after midnight of Sunday at Toronto.

April 18, 19, 20, and 21, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. ○	Sc.-Div^{ns}.	Ther. ○
	10	0	0	44·2	55·8	52	80·7	51
	12	0	0	48·3	54·8	53	81·2	52
	14	0	0	51·0	47·9	52	80·6	52
	16	0	0	52·9	50·7	51	80·4	51
	18	0	0	52·1	54·2	49	80·6	49
	20	0	0	53·0	58 5	48	81·4	49
	22	0	0	53·6	61·2	48	81·3	48

St. Helena { Decl. 1 Scale Division = 0′·71; H. F. k = ·00018; q = ·00025

Positions at the usual hours of observation, April 18, 19, 20, and 21.

18	14	0	0[b]	27·1	64·9	70
	15	0	0	27·1	64·2	70
	16	0	0	28·0	65·9	70
	18	0	0	27·6	64·9	70
	20	0	0	29·9	66·9	70
	20	30	0	28·0	65·0	70
	22	0	0	28·0	69·2	70
	23	0	0	29·8	71·6	70
19	0	0	0	31·2	71·0	71
	2	0	0	27·8	70·8	71
	3	0	0	26·8	68·9	71
	4	0	0	26·3	63·9	72
	5	0	0	26·0	62·0	72
	6	0	0	26·8	65·1	72
	7	0	0	28·0	65·0	72
	10	0	0	28·2	63·0	71
	11	0	0	27·8	62·9	71
	12	0	0	28·9	61·0	71
	13	0	0	30·0	65·9	71
	14	0	0	30·0	65·8	71
	15	0	0	30·1	66·4	70
	16	0	0	30·0	65·9	70
	18	0	0	31·3	67·0	70
	19	30	0	31·9	68·0	70
	20	0	0	31·9	68·1	70
	20	30	0	31·0	69·1	70
	22	0	0	30·0	69·1	70
	23	0	0	31·0	68·8	70
20	0	0	0	28·4	71·1	71
	2	0	0	27·1		
	3	0	0	23·9	68·0	72
	4	0	0	26·1	66·2	72
	5	0	0	25·8	63·7	72
	6	0	0	26·0	61·1	72
	8	0	0	26·8	59·9	71
	10	0	0	27·0	62·0	71
	11	0	0	28·1	64·1	71
	12	0	0	29·0	64·1	71
	13	0	0	28·9	63·9	71
	14	0	0	29·1	65·1	72
	15	0	0	29·0	66·9	70
	16	0	0	30·2	67·6	70
	18	0	0	31·2	72·0	70
	19	30	0	31·8	68·9	70
	20	0	0	31·4	68·0	70
	20	30	0	30·5	68·9	70
	22	0	0	29·6	72·4	70
	23	0	0	30·2	72·9	70
21	0	0	0	31·9	76·0	70

[b] Commencing after midnight of Sunday at St. Helena.

April 18, 19, 20, and 21, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
21	2	0	0	29·0	74·9	71		
	3	0	0	26·6	70·9	71		
	4	0	0	26·9	66·9	72		
	5	0	0	27·9	65·6	72		
	6	0	0	28·9	66·0	72		
	8	0	0	28·8	66·0	71		
	10	0	0	29·0	67·1	71		
	11	0	0	30·1	70·2	71		
	12	0	0	30·4	68·9	70		
	13	0	0	30·5	68·0	70		
	14	0	0	30·4	66·9	70		
	15	0	0	30·8	67·2	70		
	16	0	0	31·0	69·1	70		
	18	0	0	29·9	68·1	69		
	19	30	0	31·1	69·7	70		
	20	0	0	30·8	69·2	70		
	20	30	0	30·1	68·0	70		
	22	0	0	28·9	73·5	70		
	23	0	0	29·2	74·8	69		

Mean Positions at the same hours during the Month.

	0	0	0	30·5	78·8	70	
	2	0	0	29·8	77·6	71	
	3	0	0	28·9	74·8	71	
	4	0	0	29·0	72·0	71	
	5	0	0	29·0	70·1	71	
	6	0	0	28·7	68·8	71	
	8	0	0	29·2	67·5	71	
	10	0	0	29·6	67·9	70	
	11	0	0	29·7	68·4	70	
	12	0	0	29·8	67·9	70	
	13	0	0	30·1	68·5	70	
	14	0	0	29·8	68·9	70	
	15	0	0	30·1	69·3	70	
	16	0	0	30·4	69·8	70	
	18	0	0	30·7	71·0	69	
	19	30	0	31·7	71·8	69	
	20	0	0	31·0	71·9	69	
	20	30	0	29·7	72·7	69	
	22	0	0	27·8	76·5	69	
	23	0	0	28·8	77·9	69	

Cape of Good Hope { Decl. 1 Scale Division = 0′·75; H. F. k = ·00018; q = ·0003

Positions at the usual hours of observation, April 18, 19, 20, and 21.

18	12	0	0[a]	54·7	45·9	67	
	14	0	0	51·0	45·8	67	
	16	0	0	52·8	42·3	66	
	18	0	0	50·0	43·8	66	
	20	0	0	51·2	45·9	66	
	22	0	0	47·1	46·9	66	
19	0	0	0	50·2	45·0	67	
	2	0	0	49·9	43·8	68	
	4	0	0	47·5	40·0	69	
	6	0	0	48·8	40·7	69	
	8	0	0	50·2	40·8	69	
	10	0	0	48·5	41·7	69	

April 18, 19, 20, and 21, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
19	12	0	0	47·8	43·0	68		
	14	0	0	51·6	45·1	68		
	16	0	0	52·1	45·1	67		
	18	0	0	53·6	43·6	66		
	20	0	0	50·2	47·0	66		
	22	0	0	48·2	42·3	67		
20	0	0	0	51·0	41·8	67		
	2	0	0	49·8	39·8	68		
	4	0	0	49·6	38·9	69		
	6	0	0	46·3	37·5	69		
	8	0	0	47·8	36·9	69		
	10	0	0	47·9	41·7	69		
	12	0	0	50·1	43·6	68		
	14	0	0	51·9	44·0	68		
	16	0	0	54·2	45·3	68		
	18	0	0	56·3	49·1	68		
	20	0	0	50·5	48·1	67		
	22	0	0	48·2	44·4	67		
21	0	0	0	51·4	44·6	68		
	2	0	0	51·6	42·1	69		
	4	0	0	50·5	48·8	70		
	6	0	0	50·0	43·8	69		
	8	0	0	50·1	43·4	68		
	10	0	0	50·8	45·7	68		
	12	0	0	51·8	47·6	68		
	14	0	0	52·1	45·9	69		
	16	0	0	54·5	45·5	69		
	18	0	0	51·9	46·4	68		
	20	0	0	50·7	48·3	68		
	22	0	0	50·5	45·9	67		

Mean Positions at the same hours during the Month.[b]

	0	0	0	51·1	40·3	66	
	2	0	0	52·7	39·4	67	
	4	0	0	51·8	39·4	68	
	6	0	0	50·9	38·6	68	
	8	0	0	51·1	38·2	67	
	10	0	0	50·7	39·8	67	
	12	0	0	51·2	39·8	67	
	14	0	0	51·6	40·7	67	
	16	0	0	52·2	41·0	66	
	18	0	0	51·6	42·1	66	
	20	0	0	47·4	44·3	66	
	22	0	0	47·4	42·7	66	

Van Diemen Island { Decl. 1 Scale Division = 0′·71; H. F. k = ·0003; q = ; V. F. k = ; q =

Extra observations.

The V. F. was observed at 2^m. 30^s. before, and the H. F. 2^m. 30^s. after the times specified.

18	5	5	0	60·3			
		10	0	62·2	208·9	93·3	
		15	0	63·8			
		20	0	63·9	210·4	92·4	
		25	0	62·8			
		30	0	60·6	211·3	90·4	

April 18, 19, 20, and 21, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
18	5	35	0	59·0				
		40	0	57·8	211·2		89·0	
		45	0	56·1				
		50	0	54·8	210·1		88·3	
	6	10	0	54·6	208·0	54		54
		15	0	54·2				
		20	0	53·6	206·9		89·3	
		25	0	52·8				
		30	0	51·5	207·2		89·5	
		35	0	50·0				
		40	0	48·9	207·9		88·9	
		45	0	48·5				
		50	0	48·1	208·8		88·1	
	8	10	0	57·9	207·4	54		53
		15	0	56·6				
		20	0	54·1	208·3		89·8	
		25	0	53·4				
		30	0	53·6	207·9		88·6	
		35	0	54·0				
		40	0	54·8	206·4		88·8	
		45	0	56·0				
		50	0	56·8	205·1		90·0	
	9	10	0	56·0	204·4			
		15	0	54·9				
		20	0	54·4	203·4		90·8	
		25	0	52·8				
		30	0	51·3	203·4		90·6	
		35	0	51·0				
		40	0	51·5	203·4		90·6	
		45	0	50·5				
		50	0	49·3	204·1		90·4	
	10	10	0	50·6	204·5	54		54
		15	0	49·2				
		20	0	49·2			89·7	
19	21	10	0	36·9	197·4	64		64
		15	0	34·7				
		20	0	33·0	198·4		90·9	
		25	0	33·4				
		30	0	33·8	199·1		90·3	
		35	0	34·9				
		40	0	34·9	200·3		89·9	
		45	0	35·7				
		50	0	36·8	200·4		89·4	
	22	10	0	38·4	200·4	65		65
		15	0	39·6				
		20	0	39·0	198·5		89·8	
		25	0	37·5				
		30	0	37·3	198·1		90·3	
		35	0	36·8				
		40	0	35·8	197·9		90·3	
		45	0	35·3				
		50	0	36·2	197·7		90·4	
	23	10	0	38·8	197·0	65		
		15	0	39·6				
		20	0	40·4	196·9		92·0	65
		25	0	41·0				
		30	0	41·4	195·7		92·1	
		35	0	41·9				
		40	0	41·1	195·9		92·8	
		45	0	41·1				
		50	0	40·8	196·3		92·8	
		55	0	40·9				
20	0	10	0	40·6	196·5[c]	66	[c]	65

[a] Commencing after midnight of Sunday at the Cape of Good Hope.

[b] The mean positions of the H. F. magnet are not strictly comparable with the positions of the 18th to the 21st, owing to the progressive stretching of the wires, which continued throughout the month.

[c] From 20^d. 0^h. 10^m. to 20^d. 1^h. 45^m., the V. F. was observed at 5^m. before, and the H. F. 5^m. after the times specified.

April 18, 19, 20, and 21, 1841.

M. Gött. Time.	Decl.	Hor. Force.		Vert. Force.	
d. h. m. s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
20 0 20 0	43·0				
30 0	45·5	197·8		91·8	
40 0	40·8				
50 0	38·0	198·0		90·9	
1 5 0	44·1	197·2			
15 0	42·7				
25 0	42·9	197·6		91·9	
35 0	43·2				
45 0	44·5			91·9	
10 5 0	58·0				
10 0	58·0	201·0	58	94·2	57
15 0	56·9				
20 0	56·2	202·8		94·1	
25 0	57·6				
30 0	58·9	203·8		93·5	
35 0	59·9				
40 0	60·1	204·2		95·4	
45 0	60·5				
50 0	60·1	203·9		92·6	
55 0	60·3				
11 5 0	57·3				
10 0	55·8	204·2	58	91·4	58
15 0	54·6				
20 0	53·5	203·8		90·9	
25 0	52·8				
30 0	52·5	203·8		90·8	
35 0	51·9				
40 0	51·9	203·1		90·5	
45 0	51·2				
50 0	51·2	202·8		90·7	

Positions at the usual hours of observation, April 18, 19, 20, and 21.

18	3	0	0[a]	47·3	207·0		92·9	
	4	0	0	50·5	208·4	53	92·7	53
	5	0	0	59·7	208·2		93·3	
	6	0	0	54·1	210·1	54	88·6	54
	7	0	0	47·7	209·1		87·5	
	8	0	0	59·4	206·7	54	92·6	53
	9	0	0	57·9	204·8		91·1	
	10	0	0	49·3	204·2	54	90·2	54
	11	0	0	48·3	204·4		90·0	
	12	0	0	48·0	208·1	54	94·2	54
	13	0	0	48·3	198·5		93·7	
	14	0	0	49·3	199·8	55	92·5	55
	15	0	0	49·8	202·4		90·3	
	16	0	0	50·8	198·7	57	92·9	57
	17	0	0	52·9	201·3		92·9	
	18	0	0	54·6	202·2	58	93·6	57
	19	0	0	44·8	202·9		92·4	
	20	0	0	51·0	200·8	57	94·7	57
	21	0	0	45·5	204·5		92·4	
	22	0	0	49·3	205 1	57	92·7	56
	23	0	0	48·3	205·8		92·4	
19	0	0	0	46·1	202·4	56	93·7	55
	1	0	0	42·8	207·0		91·8	

April 18, 19, 20, and 21, 1841.

M. Gött. Time.	Decl.	Hor. Force.		Vert. Force.	
d. h. m. s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
19 2 0 0	45·1	205·3	56	92·8	55
3 0 0	45·6	204·4		93·5	
4 0 0	46·1	208·5	55	90·4	55
5 0 0	47·5	205·2		92·8	
6 0 0	49·5	205·3	55	93·1	55
7 0 0	48·4	205·2		93·1	
8 0 0	48·7	206·7	54	93·1	54
9 0 0	50·4	206·3		93·4	
10 0 0	50·9	206·9	56	93·8	54
11 0 0	48·2	205·4		94·4	
12 0 0	49·2	203·1	55	93·9	55
13 0 0	47·0	202·3		92·6	
14 0 0	45·9	203·1	57	89·9	56
15 0 0	48·4	201·7		90·4	
16 0 0	51·1	197·8	60	92·6	59
17 0 0	55·5	199·3		91·9	
18 0 0	52·6	198·7	62	94·3	60
19 0 0	51·4	200·0		94·1	
20 0 0	50·5	200·7	63	92·7	61
21 0 0	40·7	196·9		91·9	
22 0 0	37·1	201·0	65	89·3	64
23 0 0	37·3	196·5		91·6	
20 0 0 0	40·8	196·3	66	92·7	65
1 0 0	40·9	198·1		90·9	
2 0 0	45·8	201·8	65	90·5	65
3 0 0	48·7	199·8		91·8	
4 0 0	48·0	202·3	63	90·2	62
5 0 0	50·2	203·5		92·7	
6 0 0	50·4	205·7	61	89·1	60
7 0 0	50·6	203·4		90·6	
8 0 0	52·2	203·6	59	91·4	58
9 0 0	51·6	202·1		93·0	
10 0 0	56·6	201·2	57	94·9	57
11 0 0	58·7	204·4		91·8	
12 0 0	51·2	202·5	59	91·0	60
13 0 0	45·1	201·9		89·8	
14 0 0	47·6			90·3	60
15 0 0	48·1	199·8		90·0	
16 0 0	51·7	198·8	62	92·1	60
17 0 0	52·2	197·6		93·6	
18 0 0	52·6	199·5	61	94·8	59
19 0 0	54·2	202·1		93·9	
20 0 0	52·2	203·8	61	92·6	60
21 0 0	50·0	202·8		91·6	
22 0 0	43·4	204·2	59	91·9	59
23 0 0	42·4	202·7		92·2	
21 0 0 0	45·0	201·6	57	95·3	56
1 0 0	49·5	205·6		92·8	
2 0 0	42·2	203·9	56	92·3	55
3 0 0	45·9	204·7		93·5	
4 0 0	48·4	206·5	55	93·4	54
5 0 0	49·1	206·0		94·2	
6 0 0	54·0	204·3	53	95·8	52
7 0 0	52·0	204·6		94·1	
8 0 0	50·7	204·0	52	94·5	52
9 0 0	50·1	204·1		95·0	
10 0 0	48·3	205·2	50	94·7	50
11 0 0	50·6	204·8		96·0	

April 18, 19, 20, and 21, 1841.

M. Gött. Time.	Decl.	Hor. Force.		Vert. Force.	
d. h. m. s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
21 12 0 0	50·7	204·9	51	95·8	53
13 0 0	47·6	203·2		94·2	
14 0 0	50·3	200·4	55	93·3	57
15 0 0	54·5	199·5		93·7	
16 0 0	54·5	200·4	59	92·0	60
17 0 0	56·0	202·5		91·1	
18 0 0	56·0	201·7	61	93·0	61
19 0 0	53·4	101·7		92·8	
20 0 0	49·7	201·3	62	92·4	62
21 0 0	44·4	202·2		91·5	
22 0 0	49·6	201·1	61	94·6	62
23 0 0	47·5	202·0		93·1	

Mean Positions at the same hours during the Month.

0	0	0	47·4	203·6	59	93·4	58
1	0	0	46·4	204·7		92·7	
2	0	0	46·3	204·6	58	92·8	57
3	0	0	47·0	204·3		93·3	
4	0	0	48·0	204·8	57	93·2	56
5	0	0	48·9	204·8		93·7	
6	0	0	49·3	205·0	56	93·4	55
7	0	0	48·6	205·1		93·4	
8	0	0	48·8	205·4	55	93·4	55
9	0	0	49·0	205·5		93·6	
10	0	0	47·4	205·7	54	93·5	54
11	0	0	46·3	205·4		93·4	
12	0	0	45·1	204·6	54	93·4	54
13	0	0	45·5	203·1		93·3	
14	0	0	47·8	202·3	56	93·2	56
15	0	0	50·6	201·6		93·1	
16	0	0	53·8	201·3	59	93·4	58
17	0	0	55·0	201·9		93·3	
18	0	0	54·3	202·4	61	93·1	59
19	0	0	52·8	203·0		92·7	
20	0	0	51·6	203·2	61	92·7	59
21	0	0	49·5	203·2		92·3	
22	0	0	48·8	203·5	60	92·4	59
23	0	0	47·7	203·4		92·7	

May 9 and 10, 1841.

Toronto[c] { Decl. 1 Scale Division = ·0′·72; H. F. k = ·000076; q = ·0002; V. F. k = ·00009; q = ·00018

Extra observations.

The V. F. was observed at 1^m. 30^s. before, and the H. F. 2^m. after the times specified. [b]

10	0	25	0	64·7	401·0	53	58·8	53
		30	0	67·4	401·7		57·3	
		35	0	67·4	402·0		60·5	

[a] Commencing after midnight of Sunday at Van Diemen Island.

[b] Weather densely clouded, with haze and drizzling rain.

[c] Toronto, May, 1841.—*Times of observation at which the Magnetometers were disturbed, but the mean readings of the Instruments were not materially changed.*

d. h.
2 18 Decl., H. F., and V. F., much disturbed, vibrating.
20 Decl., H. F., and V. F., very much disturbed, vibrating, with shocks.
22 Decl., H. F., and V. F., very much disturbed, vibrating, with shocks.

d. h.
3 0 Decl., H. F., and V. F., moderate vibrations; Decl. much disturbed with shocks.
5 0 H. F. and V. F. slight vibrations; Decl. very slight vibrations and shocks.
16 Decl., H. F., and V. F., moderate vibrations and shocks.
6 0 V. F. vibrating much.
2 V. F. slight vibrations; Decl. and H. F. moderate shocks.
7 22 Decl. vibrating much, with shocks.
8 0 Decl. and H. F. vibrating much, with shocks.
10 22 H. F. slight shocks.

May 9 and 10, 1841.									May 9 and 10, 1841.									May 9 and 10, 1841.								
M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.		M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.		M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °	d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °	d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
10	0	40	0	62·2	406·6		61·3		10	3	40	0	44·8	406·0		75·0		10	5	50	0	52·6	470·1		89·9	
		45	0	56·4	409·1		60·7				45	0	43·5	404·0		75·2				55	0	51·1	476·6		91·8	
		50	0	54·5	404·8		61·6				50	0	46·4	406·8		75·1			6	5	0	47·4	478·9	54	92·4	54
		55	0	55·6	405·3		62·3				55	0	48·5	412·8		76·6				10	0	47·2	484·3		93·4	
	1	0	0	54·7	435·6	53	60·6	53		4	10	0	49·5	418·3	54	77·7	54			15	0	46·5	491·7		93·4	
		5	0	45·9	443·2		62·3				15	0	50·3	423·7		78·7		Positions at the usual hours of observation, from ☾ May 9th, 18^h. to May 10th, 22^h.								
		10	0	44·8	443·1		61·6				20	0	51·4	429·0		79·5										
		15	0	42·0	429·1		60·5				25	0	50·3	433·2		80·1										
		20	0	36·2	427·5		60·8				30	0	50·0	437·0		80·8										
		25	0	35·1	422·7		61·0				35	0	48·9	438·7		81·3		9	18	0	0[a]	51·9	442·8	54	64·5	54
		30	0	34·8	423·5		61·4				40	0	50·7	441·4		82·8			20	0	0	61·4	432·3	53	59·2	54
		35	0	35·0	424·8		63·2				45	0	49·2	438·7		83·2			22	0	0	55·5	437·5	53	57·5	54
		40	0	36·7	224·2		65·1				50	0	47·0	438·7		84·2		10	0	0	0	71·5	400·7	53	49·0	53
		45	0	36·9	419·6		65·0				55	0	46·9	432·8		84·2			2	0	0	34·9	410·3	53	65·3	53
	2	40	0	47·4	414·2	53	71·2	53		5	0	0	47·9	435·5	54	85·5	54		4	0	0	50·6	415·5	54	76·5	54
		45	0	46·3	405·7		71·5				5	0	45·3	431·9		85·0			6	0	0	50·4	475·1	54	92·6	54
		50	0	48·1	409·3		72·8				10	0	45·9	425·7		84·7			8	0	0	44·7	527·5	54	92·4	54
		55	0	48·6	404·9		73·8				15	0	45·1	423·3		84·7			10	0	0	43·5	516·0	54	90·2	54
	3	0	0	46·4	403·7	52	73·8	53			20	0	44·4	428·8		85·2			12	0	0	48·0	485·5	55	91·6	54
		5	0	47·0	405·5		74·2				25	0	45·7	435·6		85·6			14	0	0	42·7	483·3	55	86·0	55
		10	0	46·1	411·7		74·2				30	0	48·0	445·0		87·0			16	0	0	45·3	462·7	54	80·9	55
		25	0	47·9	409·4		74·3				35	0	48·9	449·0		87·1			18	0	0	46·0	463·9	54	79·5	55
		30	0	45·8	407·4		75·6				40	0	48·6	455·6		87·5			20	0	0	50·0	463·3	54	79·0	54
		35	0	46·3	405·3		75·3				45	0	49·9	462·6		88·7			22	0	0	51·2	461·8	55	78·8	54

d. h.
11 0 H. F. slight shocks.
2 Decl. and H. F. moderate shocks.
16 Decl. and H. F. vibrating much.
12 18 Decl., H. F., and V. F., vibrating much, with shocks.
22 Decl. and H. F. vibrating very much.
13 0 Decl. vibrating very much.
2 Decl. vibrating very much.
8 Decl. and H. F. moderate shocks.
14 18 Decl. vibrating very much, and H. F. moderately.
20 Decl. and H. F. vibrating very much.
22 Decl., H. F., and V. F., vibrating moderately.
15 0 Decl. moderate vibrations; H. F. slight vibrations and shocks; V. F. vibrating very much.
2 H. F. strong shocks at 1^h. 55^m.
16 18 Decl. vibrating very much.
17 2 Decl. vibrating slightly; H. F. moderate shocks.
4 Decl., H. F., and V. F., slight vibrations.
20 Decl. vibrating much.
22 Decl. and H. F. vibrating much.
18 0 Decl. and H. F. moderate vibrations; V. F. vibrating very much.
20 Decl. vibrating much.
19 0 Decl. vibrating much, with shocks; H. F. slight shocks.
6 H. F. slight shocks.
8 H. F. slight shocks.
20 Decl. and H. F. vibrating much, with shocks.
22 Decl. and H. F. vibrating much, with shocks.
20 0 Decl. vibrating much; H. F. slight vibrations and shocks.
21 2 Decl. and H. F. slight shocks.
4 H. F. strong shocks.
6 Decl. and H. F. strong shocks.
12 Decl. and H. F. slight vibrations and shocks.
14 Decl. and H. F. slight vibrations and shocks.
22 10 H. F. moderate vibrations and shocks.
12 H. F. slight vibrations and shocks.
14 H. F. very slight vibrations and shocks.
24 2 H. F. slight shocks.
25 0 Decl. slight vibrations and shocks.
18 H. F. slight shocks.
20 H. F. moderate shocks.
22 H. F. moderate shocks.
27 2 H. F. vibrating much, with shocks.
4 H. F. vibrating much, with shocks.
6 H. F. vibrating much, with shocks.
30 22 Decl. and H. F. vibrating much.
31 0 Decl., H. F., and V. F., vibrating much, with shocks.
2 Decl. and H. F. slight shocks.

Toronto, June, 1841.—*Times of observation at which the Magnetometers were disturbed, but the mean readings of the Instruments were not materially changed.*

d. h.
1 18 Decl. and H. F. slightly disturbed, vibrating, with shocks.
2 22 Decl. and H. F. considerable vibrations.
3 0 Decl. and H. F. slight vibrations.
2 Decl. and H. F. moderate vibrations.
4 22 V. F. considerable vibrations.
5 4 V. F. considerable vibrations.
6 22 H. F. slight shocks.
9 0 Decl. moderate shocks.
2 Decl. moderate shocks.
4 Decl. and H. F. moderate shocks.
6 Decl. and H. F. moderate shocks and vibrations.
10 0 Decl. vibrating much, H. F. moderately, V. F. considerably, with shocks.
2 Decl. and H. F. moderate vibrations and shocks.
11 20 Decl. and H. F. moderate vibrations and shocks.
22 Decl. and H. F. moderate vibrations and shocks.
12 0 Decl., H. F., and V. F., moderate vibrations, with shocks.
2 Decl. and H. F. slight vibrations and shocks.
12 H. F. moderate shocks.
14 Decl. and H. F. moderate shocks.
15 0 Decl. and H. F. moderate shocks.
2 Decl. slight shocks; H. F. vibrating much, with shocks.
4 Decl. moderate shocks.
10 H. F. moderate shocks.
16 0 Decl. and H. F. slight vibrations.
10 H. F. slight vibrations.
18 H. F. slight vibrations and shocks.
22 Decl. and H. F. slight vibrations and shocks.
17 0 Decl. and H. F. moderate vibrations and shocks.
2 H. F. slight vibrations and shocks.
4 H. F. moderate shocks.
12 H. F. moderate shocks.
22 H. F. moderate shocks.
18 2 H. F. slight shocks.
21 18 V. F. slight vibrations.
23 2 Decl. and H. F. moderate shocks.
23 4 Decl. and H. F. moderate vibrations and shocks.
8 H. F. moderate shocks.
25 0 Decl. much disturbed by shocks; H. F. much, and vibrating.
2 Decl. much disturbed by shocks; H. F. vibrating very much, with shocks.
8 Decl. and H. F. moderate shocks.
12 Decl. and H. F. vibrations and shocks.
28 20 V. F. slightly vibrating.
29 0 H. F. moderate vibrations.
8 H. F. slight shocks.
10 H. F. moderate shocks.

[a] Commencing after midnight of Sunday at Toronto.

May 9 and 10, 1841.

Mean Positions at the same hours during the Month.[a]

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
	0	0	0	54·9	477·8	56	73·0	56
	2	0	0	55·7	468·4	57	72·3	57
	4	0	0	50·4	454·3	58	70·8	58
	6	0	0	42·6	458·9	59	71·7	58
	8	0	0	40·8	470·2	60	72·4	59
	10	0	0	43·7	477·1	60	73·3	60
	12	0	0	48·0	472·6	61	72·7	60
	14	0	0	50·1	467·7	60	71·8	60
	16	0	0	50·4	467·9	59	72·0	59
	18	0	0	49·8	470·4	58	72·0	58
	20	0	0	49·3	472·9	57	72·7	57
	22	0	0	50·6	475·3	56	72·5	56

St. Helena { Decl. 1 Scale Division = 0′·71
H. F. k = ·00018; q = ·00025

Regular and extra observations.

The H. F. was observed at 1^{m}. after the times specified.

9	14	0	0[b]	29·8	68·2	65		
		15	0	27·0	63·9	66		
		16	0	31·1	63·0	66		
		18	0	29·1	66·8	66		
		19	30	33·6	66·5	66		
		20	0	32·1	63·0	66		
		20	30	32·0	60·0	66		
		22	0	28·0	61·3	66		
		23	0	27·1	63·4	66		
10	0	0	0	26·0	64·1	67		
	2	0	0	22·5	55·0	68		
		12	28	22·0	54·8			
		17	28	21·9	54·8			
		22	28	21·9	54·3			
		27	28	21·9	54·0			
		32	28	22·1	53·9			
		37	28	22·3	53·9			
		42	28	22·1	53·2			
		47	28	22·1	53·1			
		52	28	22·0				
		57	28	22·0	53·1	68		
	3	0	0	22·0				
		2	28	21·9	53·0			
		7	28	21·8	52·5			
		12	28	21·7	52·1			
		17	28	21·5	51·6			
		22	28	21·8	51·0			
		27	28	21·9	50·9			
		32	28	21·3	50·0			
		37	28	21·9	50·0			
		42	28	22·0	50·0			
		47	28	22·7	49·9			
		52	28	23·0	49·9			
		57	28	22·9	50·0			
	4	0	0	22·9	50·0	68		
		2	28	23·0	50·0			
		7	28	23·1	50·0			
		12	28	23·1	50·0			
		17	28	23·2	50·0			
		22	28	23·5	49·0			
		27	28	23·6	48·8			

May 9 and 10, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
10	4	32	28	23·4	48·2			
		37	28	23·1	47·9			
		42	28	23·0	47·2			
		47	28	23·0	47·0			
		52	28	23·0	47·0			
		57	28	22·9	47·0			
	5	0	0	22·9	47·0	68		
		2	28	22·9	47·0			
		7	28	22·7	47·1			
		12	28	22·6	47·9			
		17	28		48·9			
		22	28	22·3	47·9			
		27	28	22·8	48·2			
		32	28	23·1	48·9			
		37	28	23·5	49·0			
		42	28	24·1	49·9			
		47	28	24·3	50·1			
		52	28	24·2	50·1			
		57	28	24·1				
	6	0	0	24·1	50·1	68		
		2	28	24·1	50·1			
		7	28	23·9	50·0			
		12	28	23·9	50·0			
		17	28	23·9	50·1			
		22	28	23·8	50·2			
		27	28	23·8	51·0			
		32	28	23·8	51·2			
		37	28	23·0	51·5			
		42	28	23·0	51·3			
		47	28	22·6	51·1			
		52	28	22·0	51·0			
		57	28	22·0	51·0			
	7	2	28	22·0	50·9			
		7	28	22·0	50·2			
		12	28	22·0	50·1			
		17	28	22·0	50·0			
		22	28	21·9	49·8			
		27	28	22·0	49·1			
		32	28	22·2	48·9			
		37	28	22·7	48·8			
		42	28	23·0	48·7			
		47	28	23·0	48·8			
		52	28	23·2	48·9			
		57	28	23·6	49·0			
	8	0	0	23·8	49·0	68		
		2	28	23·8	49·0			
		7	28	23·5	49·5			
		12	28	23·1	49 8			
		17	28	23·0	49·9			
		22	28	23·0	49·9			
		27	28	23·0	50·0			
		32	28	23·1	50·6			
		37	28	23·4	50·8			
		42	28	23·8	50·9			
		47	28	23·8	50·9			
		52	28	23·9	51·0			
		57	28	24·0	51·3			
	9	2	28	24·0	51·7	68		
		7	28	24·1	51·9			
		12	28	24·3	52·2			
		17	28	24·4	52·4			
		22	28	24·5	52·4			
		27	28	24·6	52·3			
		32	28	24·6	52·4			

May 9 and 10, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
10	9	37	28	24·6	52·2			
		42	28	24·8	52·3			
		47	28	25·0	53·1			
		52	28	25·2	53·5			
		57	28	25·1	53·7			
	10	0	0	25·1	53·4	69		
		2	28	25·0	53·4			
		7	28	24 4	53·4			
		12	28	24·5	53·3			
		17	28	24·9	53·2			
		22	28	25·9	53·4			
		27	28	24·9	53·0			
		32	28	24·9	53·0			
		37	28	25·0	53·0			
		42	28	25·0	53·0			
		47	28	25·1	53·1			
		52	28	25·1	53·5			
		57	28	25·1	53·3			
	11	0	0	25·1	53·3	67		
		2	28	25·6	53·2			
		7	28	25·8	53·2			
		12	28	25·8	53·4			
		17	28	25·2	53·8			
		22	28	25·3	54·0			
		27	28	25·4	54·1			
		32	28	25·5	54·1			
		37	28	25·7	54·9			
		42	28	25·9	55·1			
		47	28	25·9	55·5			
		52	28	26·1	56·0			
		57	28	26·7	56·7			
	12	0	0	26·8	57·0	67		
		2	28	27·0	57·0			
		7	28	27·1	58·0			
		12	28	27·1	58·1			
		17	28	27·9	58·8			
		22	28	28·1	59·1			
		27	28	28·1	59·2			
		32	28	28·2	59·7			
		37	28	28·9	59·8			
		42	28	28·9	60·0			
		47	28	28·9	59·9			
		52	28	29·0	59·1			
		57	28	29 0	59·1			
	13	0	0	29·0	59·1	67		
		2	28	29·0	59·1			
		7	28	29·0	59·0			
		12	28	29·0	58·7			
		17	28	29·1	58·7			
		22	28	29·1	58·5			
		27	28	29·1	58·2			
		32	28	29·2	58·1			
		37	28	29·8	58·2			
		42	28	30·1	58·8			
		47	28	30·3	58·9			
		52	28	30·6	58·9			
		57	28	30·2	58·9			
	14	0	0		57·0	67		
		2	28	30·1	58·9			
		7	28	30·2	58·9			
		12	28	30·4	59·1			
		17	28	30·8	59·2			
		22	28	30·2	59·9			
		27	28	30·2	60·0			

[a] The mean positions of the Decl. magnet are from the 1st to the 24th of May, inclusive; and those of the V. F. magnet from the 1st to the 25th, inclusive.

[b] Commencing after midnight of Sunday at St. Helena.

May 9 and 10, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
10	14	32	28	30·5	60·9			
		37	28	30·2	61·0			
		42	28	30·1	61·0			
		47	28	30·1	61·1			
		52	28	30·0	61·2			
		57	28	30·0	61·0			
	15	0	0	30·0	61·1	67		
		2	28	30·0	61·1			
		7	28	30·0	61·5			
		12	28	30·0	61·9			
		17	28	30·0	62·0			
		22	28	30·0	62·1			
		27	28	30·0	62·5			
		32	28	29·2	62·4			
		37	28	29·0	62·4			
		42	28	29·4	62·1			
		47	28	29·1	62·1			
		52	28	29·1	62·0			
		57	28	29·0	62·0			
	16	0	0	29·0	62·0	67		
		2	28	29·0				
		7	28	29·0	62·0			
		12	28		62·0			
		17	28	29·1	62·1			
		22	28	29·2	62·1			
		27	28	29·3	62·1			
		32	28	29·5	62·2			
		37	28	29·6	62·2			
		42	28	29·7	62·0			
		47	28	30·0	62·0			
		52	28	30·0	62·0			
		57	28	30·1	62·0			
	17	2	28	30·2	62·0			
		7	28	30·2	62·0			
		12	28	30·1	62·1			
		17	28	30·1	62·2			
		22	28	30·1	62·4			
		27	28	30·0	62·4			
		32	28	30·0	62·5			
		37	28	30·0	62·6			
		42	28	30·0	62·7			
		47	28	30·0	62·7			
		52	28	30·1	62·7			
		57	28	30·2	62·7			
	18	0	0	30·3	62·7	67		
		2	28	30·3	62·7			
		7	28	30·2	62·8			
		12	28	30·2	62·9			
		17	28	30·1	63·0			
		22	28	30·1	63·2			
		27	28	30·0	63·5			
		32	28	30·0	63·9			
		37	28	30·0	64·0			
		42	28	30·0	64·2			
		47	28	30·1	64·4			
		52	28	30·1	64·5			
		57	28	30·2	64·6			
	19	2	28	30·2	64·7	67		
		7	28	30·3	64·7			
		12	28	30·4	64·7			
		17	28	30·5	64·8			
		22	28	30·5	64·8			

May 9 and 10, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
10	19	27	28	30·5	64·9			
		32	28	30·4	64·9			
		37	28	30·4	65·0			
		42	28	30·3	65·2			
		47	28	30·1	65·4			
		52	28	30·0	65·8			
		57	28	30·0	66·0			
	20	0	0	29·9	65·9	67		
	20	30	0	28·9	67·0	66		
	22	0	0	25·0	71·7	66		
	23	0	0	23·1	74·1	66		

Mean Positions at the usual hours of observation during the Month.

0	0	0	27·5	78·7	67	
2	0	0	27·7	75·0	68	
3	0	0	27·7	72·9	68	
4	0	0	28·0	70·7	68	
5	0	0	27·7	68·7	68	
6	0	0	27·3	68·0	68	
8	0	0	27·8	67·3	68	
10	0	0	28·2	67·7	67	
11	0	0	28·2	67·9	67	
12	0	0	28·6	68·1	67	
13	0	0	28·8	68·9	67	
14	0	0	29·3	69·6	67	
15	0	0	29·3	69·9	67	
16	0	0	29·5	70·1	67	
18	0	0	30·2	70·5	66	
19	30	0	31·2	71·3	66	
20	0	0	31·3	71·4	66	
20	30	0	30·6	72·1	66	
22	0	0	27·8	75·9	66	
23	0	0	27·3	78·0	66	

CAPE OF GOOD HOPE { Decl. 1 Scale Division = 0′·75
H. F. k = ·000185; q. = ·0003

Positions at the usual hours of observation, from May 9th, 12^h., to May 10th, 22^h.

9	12	0	0[a]	53·4	74·4	62		
	14	0	0	50·2	76·4	61		
	16	0	0	55·2	65·8	61		
	18	0	0	55·4	67·5	60		
	20	0	0	51·8	63·3	60		
	22	0	0	48·0	57·3	60		
10	0	0	0	50·3	57·7	61		
	2	0	0	47·1	46·8	62		
	4	0	0		43·1	63		
	6	0	0	43·9	47·4	63		
	8	0	0	43·2	49·2	64		
	10	0	0	45·8	55·3	64		
	12	0	0	49·6	60·3	63		
	14	0	0	53·1	59·7	62		
	16	0	0	51·3	63·0	62		
	18	0	0	51·5	62·8	63		
	20	0	0	49·1	67·0	63		
	22	0	0	43·8	65·5	62		

May 9 and 10, 1841.

Mean Positions at the same hours during the Month.[b]

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
	0	0	0	50·1	73·6	61		
	2	0	0	51·5	70·3	61		
	4	0	0	51·2	70·9	62		
	6	0	0	49·9	70·3	62		
	8	0	0	49·7	70·0	62		
	10	0	0	49·9	71·0	61		
	12	0	0	51·0	72·5	61		
	14	0	0	51·9	73·3	61		
	16	0	0	52·2	73·8	61		
	18	0	0	57·9	74·4	60		
	20	0	0	50·7	77·1	60		
	22	0	0	47·2	75·5	60		

VAN DIEMEN ISLAND { Decl. 1 Scale Division = 0′·71
H. F. k = ·0003; q =
V. F. k = ; q =

Extra observations.

The V. F. was observed at 2^m. 30^s. before, and the H. F. 2^m. 30^s. after the times specified.

9	21	10	0	48·0	14·7	53	100·4	53
		15	0	58·7				
		20	0	52·6	8·2		100·7	
		25	0	47·1				
		30	0	49·3	8·9		101·0	
		35	0	47·8				
		40	0	39·4	8·2		100·3	
		45	0	44·1				
		50	0	44·1	4·9		100·9	
		55	0	39·0				
	22	10	0	41·6	6·1	53	100·6	53
		15	0	38·1				
		20	0	36·6	7·3		100·0	
		25	0	38·1				
		30	0	38·5	7·4		99·8	
		35	0	36·5				
		40	0	36·5	7·7		99·5	
		45	0	38·9				
		50	0	34·6	7·5		99·1	
	23	5	0	30·3				
		10	0	31·3	8·0	53	98·8	53
		15	0	32·8				
		20	0	32·6	9·1		97·9	
		25	0	30·5				
		30	0	29·3	9·2		96·6	
		35	0	30·6				
		40	0	32·5				
		45	0	36·9	10·5			
		50	0	42·0	11·2		96·8	
10	1	20	0	31·6	9·9			
		25	0	34·7		52		52
		30	0	37·7	10·0		93·9	
		35	0	38·9				
		40	0	38·9	11·1		94·9	
		45	0	39·6				
	2	15	0	40·1	11·1	52		

[a] Commencing after Sunday midnight at Cape Town.

[b] The mean positions of the Decl. magnet are from the 5th to the 21st, inclusive; those of the H. F. are not strictly comparable with the observations of the 9th and 10th, in consequence of the stretching of the suspension wires in the early portion of the month; the true mean positions corresponding with those of the 9th and 10th of May would, it is probable, have been higher numbers than those which result from the mean of the readings during the month.

May 9 and 10, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
10	2	20	0	38·5	13·9		95·4	52
		25	0	36·3				
		30	0	35·4	14·8		94·3	
		35	0	31·8				
		40	0	25·9	12·5		92·4	
		45	0	25·1				
		50	0	25·4	11·4		92·4	
	3	10	0	33·9	6·9	52	94·7	
		15	0	36·4				
		20	0	40·1	9·2		95·8	52
		25	0	36·5				
		30	0	31·9	14·2		94·5	
		35	0	30·2				
		40	0	28·7	17·3		91·5	
		45	0	32·3				
		50	0	34·2	18·4		89·9	
	4	15	0	37·7	18·6	52		
		20	0	38·5	20·3		88·7	52
		25	0	37·7				
		30	0	38·2	21·4		87·8	
		35	0	44·6				
		40	0	49·8	21·1		88·9	
		45	0	53·2				
		50	0	55·5	21·7		89·3	
	5	5	0	54·9		52		
		10	0	52·6	21·0		88·5	52
		15	0	51·8				
		20	0	53·0	21·5		87·7	
		25	0	50·1				
		30	0	48·0	18·8		86·6	
		35	0	45·1				
		40	0	43·4	19·7		86·4	
		45	0	46·9				
		50	0	50·7	21·4		86·9	
		55	0	54·6				
	6	5	0	59·7		52		
		10	0	62·1	21·7			
		15	0	62·7				
		20	0	63·5	22·0		88·3	52
		25	0	64·0				
		30	0	67·1	21·8		89·0	
		35	0	70·2				
		40	0	72·2	21·9		90·4	
		45	0	75·5				
		50	0	78·5			92·4	
		55	0	79·7				
	7	10	0	74·9	23·3	52		
		15	0	74·2				
		20	0	72·4	23·4		92·4	52
		25	0	68·4				

May 9 and 10, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
10	7	30	0	66·2	23·5		92·5	
		35	0	63·8				
		40	0	61·0	22·7		92·6	
		45	0	57·8				
		50	0	55·8			92·2	
	8	10	0	53·9		51		51
		15	0	53·9				

Positions at the usual hours of observation, from May 9th, 3^h. to May 10th, 23^h.

9	3	0	0^a	45·7	21·8		91·8	
	4	0	0	49·7	23·0	56	92·1	55
	5	0	0	50·2	23·8		91·8	
	6	0	0	52·1	22·8	55	92·8	54
	7	0	0	52·3	23·2		92·6	
	8	0	0	51·1	23·8	54	92·5	53
	9	0	0	49·9	24·5		92·7	
	10	0	0	48·9	24·8	52	92·7	52
	11	0	0	47·6	25·1		92·5	
	12	0	0	46·3	26·2	52	92·1	53
	13	0	0	44·7	20·9		92·9	
	14	0	0	50·6	12·6	53	97·4	53
	15	0	0	57·0	10·4		95·8	
	16	0	0	56·7	16·0	53	94·8	53
	17	0	0	58·5	12·8		96·7	
	18	0	0	59·6	16·1	52	96·5	52
	19	0	0	60·6	15·2		97·6	
	20	0	0	55·5	13·4	52	98·0	52
	21	0	0	47·2	8·8		100·7	
	22	0	0	39·1	7·6	53	100·7	54
	23	0	0	31·3	7·1		98·6	
10	0	0	0	46·0	17·2	53	97·0	54
	1	0	0	46·2	1·4		91·3	
	2	0	0	40·0	10·0	52	95·4	52
	3	0	0	27·1	9·3		93·9	
	4	0	0	35·0	18·4	52	88·7	52
	5	0	0	60·0	20·3		89·0	
	6	0	0	56·6	21·9	52	87·8	52
	7	0	0	79·0	23·2		91·0	
	8	0	0	54·6	22·6	51	91·1	51
	9	0	0	56·6	21·7		91·6	
	10	0	0	58·3	20·7	50	92·2	50
	11	0	0	57·6	20·6		92·4	
	12	0	0	54·5	20·1	50	92·3	50
	13	0	0	54·5	20·0		92·8	
	14	0	0	51·5	20·5	51	92·2	50
	15	0	0	53·0	20·5		92·1	
	16	0	0	54·1	19·9	52	92·6	52
	17	0	0	53·1	19·9		92·6	

May 9 and 10, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
10	18	0	0	52·5	19·6	53	92·8	53
	19	0	0	53·2	20·6		92·7	
	20	0	0	52·3	21·0	54	92·3	53
	21	0	0	52·0	21·2		92·0	
	22	0	0	51·6	21·4	54	92·0	53
	23	0	0	51·3	21·7		92·0	

Mean Positions at the same hours during the Month.

0	0	0	49·4	22·0	55	92·7	55
1	0	0	49·3	21·6		92·8	
2	0	0	49·0	22·4	54	92·7	54
3	0	0	48·5	22·3		92·6	
4	0	0	49·8	22·8	54	92·6	54
5	0	0	51·0	23·2		92·4	
6	0	0	51·7	23·6	53	92·6	53
7	0	0	52·8	23·8		92·9	
8	0	0	51·5	24·3	52	92·7	52
9	0	0	51·6	24·8		92·6	
10	0	0	52·2	24·9	52	92·8	51
11	0	0	51·3	25·1		92·5	
12	0	0	49·7	24·6	52	92·5	52
13	0	0	49·2	23·4		92·4	
14	0	0	49·6	21·8	54	92·6	53
15	0	0	52·0	20·7		92·6	
16	0	0	54·7	20·7	55	92·6	55
17	0	0	55·8	20·2		93·1	
18	0	0	56·1	20·8	57	92·9	56
19	0	0	55·3	21·5		92·6	
20	0	0	53·6	21·8	57	92·3	56
21	0	0	52·4	21·4		92·4	
22	0	0	50·8	21·4	56	92·5	55
23	0	0	49·9	21·4		92·7	

July 18, 19, and 20, 1841.

Toronto *{ Decl. 1 Scale Division = 0′·72; H. F. k = ·000076; q = ·0002; V. F. k = ·000093; q = ·00018

Extra observations.

The V. F. was observed at 1^m. 30^s. before, and the H. F. 2^m. 30^s. after the times specified.

19	15	15	0^b	174·5	337·6	75	82·5	75
		20	0	173·8	343·5		77·4	
		25	0	174·3	349·1		82·1	
		30	0	190·7	334·4			

* Commencing after midnight of Sunday at Van Diemen Island.

d.	h.	m.	Wind.	
^{b} 19	15	0	Calm.	Clear; bright bank of auroral light in North, with a few faint streamers shooting from it.
		30	Calm.	Clear; bank of light still remaining.
		35		A bright semi-circular narrow strip of light extending from the N. W. to N.E. horizons, the centre reaching to an altitude of 85°; low bank still remaining in North horizon.
	16	0	Calm.	Clear; bank of light growing fainter, and semi-circular form lost. No streamers visible.
		30	N.N.E. very light	Clear; Aurora growing faiuter.
	17	0	N.N.E. very light	No apparent alteration of the Aurora since 16^h. 30^m.
	18	0	Calm.	Clear; bank of auroral light in North, disappeared soon after 19^h.

* Toronto, July, 1841.—*Times of observation at which the magnets were disturbed, but the mean readings were not materially changed.*

d.	h.	
1	14	Decl. and H. F. moderately disturbed, vibrating with shocks.
2	20	Decl. and V. F. moderately, H. F. much disturbed by vibrations and shocks.
	22	Decl. and V. F. moderately; H. F. much disturbed by vibrations and shocks.
3	0	Decl. moderate shocks; H. F. vibrating much, with shocks.
5	16	Decl. moderate shocks; V. F. slightly vibrating.
	20	Decl. moderate shocks; (22^h.) Decl. and H. F. moderate shocks.
6	2	H. F. moderate shocks.
	20	H. F. slightly disturbed; vibrations and shocks.
7	0	Decl. and H. F. moderate shocks.
	2	Decl. and H. F. much disturbed by shocks.
9	2	Decl. slightly; H. F. moderate shocks.
14	22	Decl. and H. F. slight shocks; V. F. slight vibrations.
15	0	H. F. moderate vibrations and shocks.
	18	Decl.. H. F. and V. F. vibrating considerably; H. F. much disturbed by shocks.
	20	Decl., H. F., and V. F. vibrating moderate; H. F. moderate shocks.

July 18, 19, and 20, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
19	15	35	0	207·5	332·6		91·5	
		40	0	224·7	347·7		90·1	
		45	0	216·3	350·0		86·9	
		50	0	199·4	354·9		80·3	
		55	0	180·0	367·1		75·8	
	16	5	0	150·8	362·8	75	80·5	76
		10	0	151·2	366·9		81·0	
		15	0	146·3	362·0		79·9	
		20	0	144·5	367·2		78·4	
		25	0	142·6	370·9		79·0	
		30	0	139·3	375·7		78·6	
		35	0	136·8	377·0		79·1	
		40	0	136·1	374·0		79·8	
		45	0	137·1	373·9		79·3	
		50	0	139·0	375·6		79·1	
		55	0	140·3	378·5		79·1	

Positions at the usual hours of observation, from July 18th, 18^h. to July 20th, 22^h.

18	18	0	0[a]	131·9	412·3	71	83·1	72
	20	0	0	133·9	414·1	71	83·8	71
	22	0	0	135·3	414·0	70	84·1	70
19	0	0	0	143·4	416·8	69	86·5	71
	2	0	0	145·1	410·8	70	82·6	71
	4	0	0	142·5	396·6	72	80·6	72
	6	0	0	121·9	379·2	74	79·6	73
	8	0	0	117·6	405·0	74	78·8	74
	10	0	0	125·5	406·6	75	78·7	75
	12	0	0	134·5	418·6	76	80·5	76
	14	0	0	131·0	375·1	76	87·8	75
	16	0	0	161·6	377·6	75	77·1	76
	18	0	0	144·9	374·7	73	71·8	74
	20	0	0	142·0	389·9	72	72·6	73
	22	0	0	137·4	399·3	71	83·5	72
20	0	0	0	130·3	392·0	70	73·3	71
	2	0	0	141·4	394·1	71	79·8	72
	4	0	0	139·7	393·4	73	81·4	74
	6	0	0	129·1	361·1	74	80·0	75
	8	0	0	128·2	386·4	76	82·4	75
	10	0	0	124·0	357·8	76	83·7	75
	12	0	0	132·2	392·4	76	81·3	76
	14	0	0	134·8	387·0	76	79·3	75
	16	0	0	134·1	396·4	74	75·1	75
	18	0	0	134·7	394·3	73	80·6	74
	20	0	0	126·4	397·1	71	80·7	73
	22	0	0	132·2	397·5	70	83·8	71

Mean Positions at the same hours during the Month.

0	0	0	140·9	404·1	69	84·9	70
2	0	0	143·1	400·2	70	85·0	70
4	0	0	136·8	389·6	71	83·7	71

July 18, 19, and 20, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
	6	0	0	127·3	388·8	71	83·2	72
	8	0	0	125·3	403·2	72	83·8	72
	10	0	0	128·7	407·1	73	84·7	73
	12	0	0	133·1	402·7	73	84·8	73
	14	0	0	135·2	393·1	73	84·7	73
	16	0	0	136·2	394·4	72	82·8	72
	18	0	0	138·0	396·8	71	81·1	72
	20	0	0	136·2	398·3	70	81·8	71
	22	0	0	136·3	401·3	70	84·0	70

St. Helena { Decl. 1 Scale Division = 0′·71
H. F. k = ·00018; q = ·00025
V. F. k = ·0002; q =

Extra observations.

The V. F. was observed at 2^m. 30^s. before, and the H. F. 2^m. 30^s. after the times specified.

20	0	10	0	29·1	42·2	62		61
		15	0	29·8				
		20	0	29·9	43·0		50·7	
		25	0	29·8				
		30	0	29·8	43·3		50·7	
		35	0	29·9				
		40	0	30·1	43·0		50·3	
		45	0	30·1				
		50	0	29·9	42·0		50·1	
		55	0	29·9				
	1	0	0	29·3	41·7	62	49·9	61
		5	0	28·6				
		10	0	28·1	41·1		49·3	
		15	0	28·3				
		20	0	28·2	41·2		49·8	
		25	0	28·0				
		30	0	27·1	39·0		48·9	
		35	0	26·9				
		40	0	26·9	38·0		48·5	
		45	0	26·8				
		50	0	26·9	39·0		48·4	
		55	0	27·1				
2	0	0	0	27·0	40·0	62	48·9	62
		5	0	27·0				
		10	0	27·1	40·0		48·6	
		15	0	27·0				
		20	0	26·9	39·9		48·7	
		25	0	27·0				
		30	0	26·7	39·1		48·8	
		35	0	26·1				
		40	0	25·2	38·0		48·6	
		45	0	25·1				
		50	0	25·0	37·6		48·4	
		55	0	25·0				

July 18, 19, and 20, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
20	3	0	0	25·0	37·2	63	48·4	62
		5	0	25·2				
		10	0	25·3	37·1		48·4	
		15	0	25·4				
		20	0	25·5	36·8		48·7	
		25	0	25·6				
		30	0	25·5	36·2		48·5	
		35	0	25·2				
		40	0	25·0	36·0		48·5	
		45	0	24·8				
		50	0	24·5	36·1		47·9	
		55	0	24·3				
	4	0	0	24·1	35·8	63	47·8	62
		5	0	23·9				
		10	0	23·8	35·2		47·8	
		15	0	23·6				
		20	0	23·7	34·9		47·7	
		25	0	23·6				
		30	0	23·8	34·5		47·7	
		35	0	23·8				
		40	0	23·9	34·1		47·7	
		45	0	24·0				
		50	0	24·0	34·9		47·5	
		55	0	24·1				
	5	0	0	24·1	34·2	63	47·3	62
		5	0	24·2				
		10	0	24·5	34·0		47·1	
		15	0	24·2				
		20	0	24·3	34·0		47·1	
		25	0	24·0				
		30	0	24·0	33·9		46·8	
		35	0	24·0				
		40	0	24·3	33·9		46·8	
		45	0	24·6				
		50	0	24·9	33·2		46·9	
		55	0	25·1				

Positions at the usual hours of observation, July 18, 19, and 20.

18	14	0	0[b]	28·1	44·1	61	48·0	61
	15	0	0	27·7	41·7	61	48·4	61
	16	0	0	27·8	41·2	61	49·6	61
	18	0	0	28·2	42·2	61	48·8	60
	19	30	0	30·0	41·3	61	48·8	60
	20	0	0	30·8	42·8	61	48·6	60
	20	30	0	30·2	42·1	61	48·9	60
	22	0	0	26·3	45·0	60	48·3	60
	23	0	0	24·9	45·9	60	46·3	60
19	0	0	0	26·9	47·0	61	45·4	61
	2	0	0	24·5	44·1	62	46·6	62
	3	0	0	27·1	43·9	62	45·8	62
	4	0	0	29·0	43·9	63	44·7	62

d.	h.	
15	22	Decl. and H. F. moderate vibrations and shocks.
16	0	Decl. and H. F. moderate vibrations and shocks.
	20	Decl. slight, H. F. moderate, vibrations and shocks.
	22	Decl. slight, H. F. moderate, vibrations and shocks.
17	0	H. F. and V. F. moderate vibrations.
18	22	H. F. much disturbed by shocks.
19	0	H. F. moderate shocks.
	2	Decl. and H. F. moderate shocks.
20	0	H. F. much disturbed by shocks.
	2	Decl. and H. F. much disturbed by shocks.
	4	Decl. vibrating slightly; H. F. vibrating much.
	10	H. F. moderate vibrations and shocks.
	20	Decl. and H. F. vibrating slightly; V. F. vibrating much.
21	0	H. F. moderate vibrations.
21	4	H. F. moderate vibrations and shocks.
22	20	H. F. strong shocks.
	22	H. F. strong shocks.
25	20	V. F. vibrating much.
	22	H. F. moderate shocks.
26	20	Decl. and H. F. slight, V. F. considerable, vibrations.
	22	Decl. and H. F. slight vibrations.
28	0	Decl. moderate vibrations and shocks; H. F. moderate shocks.
	2	Decl. and H. F. slight shocks.
29	2	Decl. much disturbed by vibrations and shocks.
	22	H. F. slight vibrations.

[a] Commencing after Sunday midnight at Toronto.

[b] Commencing after Sunday midnight at St. Helena.

July 18, 19, and 20, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
19	5	0	0	27·2	43·2	62	44·1	63
	6	0	0	27·0	[a]		43·9	62
	8	0	0	26·0			43·7	62
	10	0	0	27·0	41·3	62	45·4	61
	11	0	0	27·6	41·4	62	45·5	61
	12	0	0	27·2	41·9	62	45·9	61
	13	0	0	26·2	40·2	62	45·5	62
	14	0	0	27·0	35·7	62	50·9	62
	15	0	0	25·5	37·9	62	50·0	60
	16	0	0	27·6	43·2	61	50·8	61
	18	0	0	26·0	38·7	61	50·4	61
	19	30	0	27·1	39·9	61	51·1	61
	20	0	0	30·9	39·0	61	51·0	61
	20	30	0	31·0	38·0	61	51·1	60
	22	0	0	29·8	43·4	61	51·9	60
	23	0	0	28·1	44·2	61	51·0	61
20	0	0	0	28·1	41·6	61	50·8	61
	2	0	0	27·0	40·0	62	48·9	62
	3	0	0	25·0	37·2	62	48·4	62
	4	0	0	24·1	35·8	63	47·8	62
	5	0	0	24·1	34·2	63	47·3	72
	6	0	0	25·0	33·0	63	47·2	62
	8	0	0	25·5	34·1	62	48·2	62
	10	0	0	24·7	32·2	62	48·3	61
	11	0	0	27·7	35·6	61	49·0	61
	12	0	0	27·2	35·1	61	48·7	61
	13	0	0	27·2	36·0	61	47·8	61
	14	0	0	27·5	37·5	61	47·8	60
	15	0	0	28·0	39·0	61	48·1	60
	16	0	0	28·5	39·1	61	48·0	60
	18	0	0	28·2	39·9	61	48·0	60
	19	30	0	30·0	39·9	61	48·0	60
	20	0	0	31·0	40·0	61	48·0	60
	20	30	0	30·7	41·5	61	47·9	60
	22	0	0	27·0	44·9	61	47·0	60
	23	0	0	25·0	44·7	61	45·2	61

Mean Positions at the same hours during the Month.[b]

0	0	0	25·0	46·2	62			
2	0	0	25·4	44·0	63			
3	0	0	25·7	41·6	63			
4	0	0	25·5	40·0	64			
5	0	0	24·9	39·0	63			
6	0	0	24·2	38·1	64			
8	0	0	24·7	37·8	63			
10	0	0	25·3	38·0	63			
11	0	0	25·6	38·1	64			
12	0	0	25·7	38·2	64			
13	0	0	25·8	37·9	63			
14	0	0	26·1	40·3	62			
15	0	0	26·1	40·1	62			
16	0	0	26·4	41·0	62			
18	0	0	26·7	41·2	62			
19	30	0	28·3	41·5	62			
20	0	0	29·3	41·2	62			
20	30	0	29·1	42·4	62			
22	0	0	25·9	45·4	62			
23	0	0	24·9	46·3	62			

July 18, 19, and 20, 1841.

Cape of Good Hope { Decl. 1 Scale Division = 0′·75; H. F. k = ·00018; q = ·0003

Positions at the usual hours of observation, July 18th, 12^h. to July 20th, 22^h.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
18	12	0	0[c]	53·4	69·1	60		
	14	0	0	53·9	71·7	60		
	16	0	0	53·7	68·9	60		
	18	0	0	54·6	65·2	60		
	20	0	0	57·0	72·9	60		
	22	0	0	49·6	73·1	60		
19	0	0	0	49·6	70·4	60		
	2	0	0	51·2	68·9	60		
	4	0	0	54·2	72·1	60		
	6	0	0	52·7	67·3	60		
	8	0	0	52·6	68·5	60		
	10	0	0	53·0	68·5	60		
	12	0	0	53·1	71·1	60		
	14	0	0	50·7	66·7	60		
	16	0	0	56·6	74·4	60		
	18	0	0	50·9	67·5	60		
	20	0	0	55·1	68·6	60		
	22	0	0	52·5	68·6	60		
20	0	0	0	52·1	61·0	60		
	2	0	0	50·8	61·3	60		
	4	0	0	50·7	62·0	60		
	6	0	0	50·4	59·3	60		
	8	0	0	50·6	59·9	59		
	10	0	0	46·6	61·1	59		
	12	0	0	52·7	62·5	59		
	14	0	0	53·0	62·0	59		
	16	0	0	55·2	64·9	59		
	18	0	0	53·7	68·3	58		
	20	0	0	52·0	70·3	58		
	22	0	0	50·0	69·2	58		

Mean Positions at the same hours during the Month.

0	0	0	51·0	67·3	58			
2	0	0	52·7	65·8	58			
4	0	0	52·4	66·1	59			
6	0	0	51·6	65·1	59			
8	0	0	51·9	65·0	59			
10	0	0	52·1	65·5	59			
12	0	0	52·7	66·7	58			
14	0	0	53·0	67·4	58			
16	0	0	53·7	68·2	58			
18	0	0	53·9	68·8	58			
20	0	0	53·6	70·9	57			
22	0	0	50·0	70·3	57			

Van Diemen Island { Decl. 1 Scale Division = 0′·71; H. F. k = ·0003; q =; V. F. k =; q =

Extra observations.

The V. F. was observed at 2^m. 30^s. before, and the H. F. 2^m. 30^s. after the times specified.

20	0	25	0[d]	56·0				
		30	0	55·3	17·5	46	13·4	45
		35	0	54·0				
		40	0	52·7[e]	15·1		14·2	

July 18, 19, and 20, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
20	0	45	0	51·8				
		50	0	52·1	12·8		15·7	
		55	0	52·2				
	1	10	0[e]	58·2	18·1	46		46
		15	0	65·1				
		20	0	67·6	23·0		19·4	
		25	0	65·4				
		30	0	70·2	27·0		11·7	
		35	0	76·2				
		40	0	79·0	22·4		11·7	
		45	0	74·3				
		57	30	63·1	17·6		11·6	
	2	7	30	58·7	16·6	47	12·5	47
		15	0[f]	55·8				
		20	0	57·1	18·0		13·3	
		25	0	57·4				
		30	0	56·5	17·5		12·9	
		35	0[g]	58·3				
		40	0	59·1	17·6		14·5	
		45	0	60·0				
		50	0	60·6	17·6		15·7	
	7	5	0	70·6				
		10	0	70·0	21·6	43	19·2	43
		15	0	69·4				
	10	10	0	75·1	23·1	42		42
		15	0	74·4				
		20	0[d]	73·9	23·5		20·7	
		25	0	71·4				
		30	0	69·1	23·3		17·8	
		35	0	68·1				
		40	0	68·1			15·7	

Positions at the usual hours of observation, July 18, 19, and 20.

18	3	0	0[h]		21·0		8·4	
	4	0	0	64·8	22·0	51	8·2	50
	5	0	0		22·4		9·2	
	6	0	0	65·3	23·1	50	9·8	48
	7	0	0		23·2		10·3	
	8	0	0	765·5	24·3	48	10·6	47
	9	0	0		23·7		11·1	
	10	0	0	64·7	23·8	48	11·3	46
	11	0	0		24·6		12·0	
	12	0	0	61·4	24·6	46	11·3	46
	13	0	0		24·2		10·9	
	14	0	0	59·9	23·8	47	9·2	47
	15	0	0		20·7		8·6	
	16	0	0	65·5	19·6	51	8·8	50
	17	0	0		20·1		8·2	
	18	0	0	67·6	21·5	52	8·0	51
	19	0	0		22·2		9·6	
	20	0	0	65·5	22·6	51	9·3	49
	21	0	0		22·4		10·4	
	22	0	0	64·8	22·1	50	11·2	48
	23	0	0		22·4		11·9	
19	0	0	0	63·8	21·9	49	13·3	47
	1	0	0		22·1		14·3	
	2	0	0	62·5	21·3	47	14·2	46
	3	0	0		22·1		14·1	
	4	0	0	63·7	23·9	47	14·6	46
	5	0	0		24·4		14·0	

[a] Connexion broken; the readings of the H. F. magnet from 18^d. 14^h. to 19^d. 5^h. are not comparable with the mean positions during the month given below.

[b] The mean positions of the H. F. are from July 20th to July 30th, inclusive; there are no mean positions of the V. F. in consequence of frequent breaks in the series.

[c] Commencing after Sunday midnight at the Cape of Good Hope.

[d] "No Aurora visible."

[e] "The Aurora plainly visible in the S.E; altitude about 20°."

[f] "Aurora scarcely visible."

[g] "Aurora not visible."

[h] Commencing after Sunday midnight at Van Diemen Island

July 18, 19, and 20, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
19	6	0	0	64·9	25·9	46	11·7	45
	7	0	0		25·0		13·9	
	8	0	0	65·0	25·2	45	15·1	44
	9	0	0		25·1		15·5	
	10	0	0	64·4	25·2	45	14·8	44
	11	0	0		27·1		13·0	
	12	0	0	61·3	24·2	45	14·2	44
	13	0	0		21·9		21·6	
	14	0	0	63·9	22·9	45	15·3	44
	15	0	0		18·7		19·7	
	16	0	0	73·7	15·4	46	23·7	45
	17	0	0		21·3		13·3	
	18	0	0	74·4	21·1	47	17·3	46
	19	0	0		17·5		24·6	
	20	0	0	72·2	19·3	47	20·5	46
	21	0	0		20·8		15·4	
	22	0	0	67·3	20·7	47	16·2	45
	23	0	0		18·2		19·0	
20	0	0	0	52·4	18·8	46	15·9	45
	1	0	0		12·4		20·4	
	2	0	0	61·8	17·6	47	12·1	47
	3	0	0		17·8		15·7	
	4	0	0	64·5	19·3	45	19·6	44
	5	0	0		22·2		17·6	
	6	0	0	64·9	22·0	43	19·8	43
	7	0	0		21·9		20·5	
	8	0	0	66·4	22·6	43	16·8	43
	9	0	0		23·1		18·1	
	10	0	0	76·5	24·1	42	22·8	42
	11	0	0		22·5		14·1	
	12	0	0	63·2	22·7	42	17·4	42
	13	0	0		21·4		18·8	
	14	0	0	63·3	21·1	43	15·8	43
	15	0	0		19·3		16·1	
	16	0	0	66·1	19·9	46	13·3	46
	17	0	0		20·5		12·1	
	18	0	0	67·9	20·9	47	13·4	46
	19	0	0		21·0		12·0	
	20	0	0	64·8	20·6	48	13·3	47
	21	0	0		21·0		13·2	
	22	0	0	64·4	20·9	47	13·7	46
	23	0	0		17·9		16·8	

Mean Positions at the same hours during the Month.

0	0	0	61·6	20·8	48	12·6	47
1	0	0	61·4	20·9		12·9	
2	0	0	61·6	20·9	47	13·1	47
3	0	0	62·2	21·7		13·2	
4	0	0	62·9	22·3	46	14·1	46
5	0	0	63·4	23·0		14·6	
6	0	0	64·0	23·4	45	15·1	45
7	0	0	65·1	23·7		15·3	
8	0	0	64·3	23·9	44	15·1	44
9	0	0	64·0	24·3		15·1	
10	0	0	64·4	24·5	44	15·3	44
11	0	0	63·6	24·8		14·9	
12	0	0	62·0	24·5	44	14·1	44
13	0	0	61·4	23·5		14·0	
14	0	0	62·7	21·7	46	13·7	46
15	0	0	64·6	20·0		13·1	
16	0	0	66·7	19·2	48	13·5	48
17	0	0	68·1	19·3		12·6	
18	0	0	68·4	19·9	50	12·2	49

July 18, 19, and 20, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
	19	0	0	67·0	20·1		12·1	
	20	0	0	65·4	20·3	50	11·2	49
	21	0	0	64·2	20·4		11 4	
	22	0	0	63·6	20·7	49	11·7	48
	23	0	0	62·6	20·8		12·1	

Antarctic Expedition at Garden Island, Sydney, New South Wales.

Decl. 1 Scale Division = 0′·73
H. F. k = ·000186 ; q =
V. F. k = ; q =

Positions at the usual hours of observation, July 18, 19, and 20.

18	3	0	0[a]	38·1	47·0	52	48·7	55
	4	0	0	38·8	48·0	52	49·4	54
	5	0	0	38·6	48·8	52	48·4	54
	6	0	0	39·9	49·5	52	49·8	53
	7	0	0	38·8	48·0	52	50·9	54
	8	0	0	38·8	47·8	52	49·7	54
	9	0	0	38·5	48·9	52	49·0	54
	10	0	0	38·7	50·5	52	50·2	53
	11	0	0	37·8	51·4	52	50·2	54
	12	0	0	35·9	50·3	52	50·2	54
	13	0	0	33·9	49·0	53	49·2	55
	14	0	0	34·3	48·8	54	48·7	55
	15	0	0	37·5	43·4	57	47·3	59
	16	0	0	40·3	41·7	58	48·1	59
	17	0	0	40·5	41·2	59	46·4	59
	18	0	0	40·2	42·0	60	46·1	61
	19	0	0	39·2	43·9	61	45·6	61
	20	0	0	38·0	42·4	60	46·3	61
	21	0	0	37·8	42·3	59	46·3	60
	22	0	0	37·6	43·0	58	47·2	59
	23	0	0	37·6	44·1	57	48·2	58
19	0	0	0	36·8	43·9	57	50·3	56
	1	0	0	36·7	46·3	55	50·3	56
	2	0	0	36·2	44·0	57	50·1	56
	3	0	0	36·8	45·4	57	49·9	56
	4	0	0	37·4	46·9	55	49·9	56
	5	0	0	36·5	48·6	56	49·9	56
	6	0	0	37·0	51·9	53	50·1	57
	7	0	0	36·0	51·7	52	49·9	56
	8	0	0	38·0	53·5	52	50·0	56
	9	0	0	36·9	53·2	52	50·3	56
	10	0	0	38·4	56·1	51	50·1	56
	11	0	0	37·5	58·5	50	50·0	56
	12	0	0	35·7	55·7	51	49·8	56
	13	0	0	36·0	51·4	51	50·4	56
	14	0	0	35·4	51·0	54	47·4	56
	15	0	0	39·2	43·9	56	48·0	57
	16	0	0	43·1	35·7	58	48·0	59
	17	0	0	41·1	40·5	60	45·6	62
	18	0	0	44·2	38·1	61	45·9	62
	19	0	0	45·9	32·5	60	47·9	61
	20	0	0	41·6	36·2	61	45·0	64
	21	0	0	38·5	39·0	59	46·0	60
	22	0	0	37·9	40·3	58	47·1	59
	23	0	0	36·1	38·5	56	48·8	57
20	0	0	0	30·4	48·1	54	48·1	56
	1	0	0	29·0	36·4	53	50·3	56
	2	0	0	35·0	46·8	53	49·3	57
	3	0	0	33·8	44·5	52	50·2	57

July 18, 19, and 20, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
20	4	0	0	35·0	46·3	52	51·6	57
	5	0	0	36·8	48·5	53	51·6	53
	6	0	0	35·9	49·7	51	51·0	53
	7	0	0	40·2	50·4	50	51·4	53
	8	0	0	37·0	52·6	50	50·8	53
	9	0	0	36·4	53·2	50	50·5	53
	10	0	0	42·9	54·7	49	53·1	50
	11	0	0	35·1	55·5	50	51·0	49
	12	0	0	36·1	55·6	49	49·2	53
	13	0	0	34·9	53·5	50	49·4	53
	14	0	0	36·1	53·7	50	49·7	52
	15	0	0	38·9	52·7	50	50·3	53
	16	0	0	38·6	52·2	50	50·0	58
	17	0	0	39·7	53·4	51	50·5	53
	18	0	0	39·6	52·7	52	50·7	53
	19	0	0	38·7	51·7	52	50·3	53
	20	0	0	36·9	51·7	52	49·1	54
	21	0	0	36·1	52·3	52	49·1	54
	22	0	0	36·1	52·3	51	50·0	54
	23	0	0	35·5	49·5	51	50·5	54

Mean Positions at the same hours, from July 19 to July 31 inclusive.

0	0	0	33·1	51·1	56	47·9	57
1	0	0	32·6	52·0		48·9	
2	0	0	33·1	53·7	56	49·0	56
3	0	0	34·0	53·0		48·5	
4	0	0	34·6	54·1	54	48·8	56
5	0	0	35·0	55·2		49·3	
6	0	0	35·6	56·3	53	50·3	55
7	0	0	36·4	57·3		50·2	
8	0	0	35·9	58·3	52	50·0	54
9	0	0	35·3	59·0		49·4	
10	0	0	35·9	60·2	51	49·9	54
11	0	0	34·6	61·2		49·4	
12	0	0	33·8	60·6	52	48·8	54
13	0	0	32·7	58·5		47·8	
14	0	0	33·4	55·6	54	47·0	56
15	0	0	35·5	51·7		47·3	
16	0	0	37·0	48·6	58	46·8	59
17	0	0	38·1	48·2		46·6	
18	0	0	38·5	48·1	60	46·4	61
19	0	0	37·0	47·6	.	46·3	
20	0	0	35·7	48·4	59	46·3	60
21	0	0	34·2	49·2		46·5	
22	0	0	34·8	49·6	57	47·5	59
23	0	0	33·9	50·7		47·2	

July 23 and 24, 1841.

Toronto

Decl. 1 Scale Division = 0′·72
H. F. k = ·000076 ; q = ·0002
V. F. k = ·000093 ; q = ·00018

Positions at the usual hours of observation, from July 23rd, 0^h. to July 24th, 16^h.

23	0	0	0	43·9	91·5	76	72·6	77
	2	0	0	42·0	86·1	76	76·2	77
	4	0	0	37·9	53·0	77	72·1	77
	6	0	0	28·0	67·9	78	71·4	78
	8	0	0	24·1	80·6	79	73·6	79
	10	0	0	26·2	90·4	79	74·3	79

[a] Commencing after Sunday midnight at Sydney.

July 23 and 24, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
23	12	0	0	29·3	79·9	81	77·4	80
	14	0	0	39·8	60·0	80	74·2	80
	16	0	0	42·8	45·0	79	67·6	80
	18	0	0	40·0	71·4	78	62·4	79
	20	0	0	33·4	59·9	78	62·5	79
	22	0	0	31·0	71·2	77	54·8	78
24	0	0	0	32·0	56·1	76	44·7	77
	2	0	0		28·4	77	60·6	77
	4	0	0	43·4	61·7	78	68·8	79
	6	0	0	31·2	63·5	79	71·9	80
	8	0	0	25·1	81·3	81	73·8	81
	10	0	0	35·8	30·1	81	84·2	81
	12	0	0	30·0	77·0	80	81·7	81
	14	0	0	35·8	67·9	80	80·0	80
	16	0	0[a]	46·2	64·3	79	75·5	79

The Mean Positions during the Month are given in page 59.

St. Helena { Decl. 1 Scale Division = 0′·71 ; H. F. k = ·00018 ; q = ·00025 ; V. F. k = ·0002 ; q =

Extra observations.

The H. F. was observed at 2^m. 30^s. after the times specified.

23	23	40	0	29·1	40·0	62		
		45	0	29·8				
		50	0	29·8	39·8			
		55	0	29·3				
24	0	5	0	29·0				
		10	0	29·0	39·0	62		
		15	0	28·9				
		20	0	28·9	39·0			
		25	0	28·8				
		30	0	28·4	37·9			
		35	0	28·1				
		40	0	28·1	37·1			
		45	0	28·1				
		50	0	28·3	37·1			
		55	0	28·8				
	1	5	0	28·7				
		10	0	28·1	37·0	63		
		15	0	28·0				
		20	0	28·0	37·0			
		25	0	28·1				
		30	0	28·6	38·7			
		35	0	28·8				
		40	0	28·6	38·0			
		45	0	28·1				
		50	0	28·1	38·2			
		55	0	28·1				
	2	5	0	28·0				
		10	0	28·0	38·0	63		
		15	0	27·7				
		20	0	27·2	38·0			
		25	0	27·0				
		30	0	27·0	38·0			
		35	0	27·0				
		40	0	27·0	37·0			
		45	0	27·0				
		50	0	26·9	36·1			
		55	0	27·1				
	3	5	0	28·0				

July 23 and 24, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert: Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
24	3	10	0	28·0	35·8	63		
		15	0	27·8				
		20	0	27·5	35·9			
		25	0	27·3				
		30	0	27·0	35·3			
		35	0	26·7				
		40	0	26·5	35·5			
		45	0	26·5				
		50	0	26·3	35·0			
		55	0	26·2				
	4	5	0	25·9		63		
		10	0	25·4	35·4			
		15	0	25·4				
		20	0	25·9	34·8			
		25	0	26·0				
		30	0	26·0	34·0			
		35	0	26·0				
		40	0	26·0	34·7			
		45	0	25·9				
		50	0	25·2	34·8			
		55	0	25·1				
	5	30	0	23·2	34·6	64		
	8	5	0	23·9		62		
		10	0	23·9	29·5			
		15	0	23·9				
		20	0	24·0	29·1			
		25	0	24·1				
		30	0	24·1	28·8			
		35	0	24·2				
		40	0	24·2	28·4			
		45	0	24·1				
		50	0	24·4	28·1			
		55	0	24·6				
	9	5	0	24·5				
		10	0	24·2	27·3			
		15	0	24·2				
		20	0	24·0	27·1			
		25	0	23·9				
		30	0	23·9	27·1			
		35	0	23·9				
		40	0	23·9	28·6			
		45	0	24·1				
		50	0	24·7	31·8			
		55	0	25·4				
	10	5	0	25·1		63		
		10	0	24·9	35·4			
		15	0	24·8				
		20	0	24·7	36·6			
		25	0	24·9				
		30	0	24·9	38·0			
		35	0	24·8				
		40	0	25·0	37·2			
		45	0	25·0				
		50	0	25·0	35·7			
		55	0	24·9				
	11	5	0	25·1		62		
		10	0	25·0	33·1			
		15	0	24·9				
		20	0	24·7	32·2			
		25	0	24·7				
		30	0	24·7	31·8			
		35	0	24·7				
		40	0	24·8	32·0			
		45	0	24·9				

July 23 and 24, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
24	11	50	0	24·9	32·2			
		55	0	24·9				
	12	5	0	24·9		62		
		10	0	24·9	32·3			
		15	0	24·8				
		20	0	24·8	32·2			
		25	0	24·8				
		30	0	24·6	32·1			
		35	0	24·6				
		40	0	24·5	32·6			
		45	0	24·3				
		50	0	24·3	32·3			
		55	0	24·4				

Positions at the usual hours of observation, from July 23rd, 0^h. to July 24th, 12^h.

23	0	0	0	24·9	47·6	62	48·4	62
	2	0	0	22·8	44·2	63	46·9	63
	3	0	0	25·2	41·5	64	42·0	63
	4	0	0	27·1	39·8	64	38·3	63
	5	0	0	26·1	39·0	64	37·9	63
	6	0	0	25·8	38·9	64	38·3	63
	8	0	0	26·0	40·0	63	39·6	62
	10	0	0	25·9	37·1	63	40·7	62
	11	0	0	26·1	34·8	62	41·4	62
	12	0	0	25·2	35·2	62	41·2	62
	13	0	0	26·2	36·2	62	41·8	61
	14	0	0	25·9	36·9	62	42·0	61
	15	0	0	24·8	40·1	62	41·9	61
	16	0	0	26·0	42·0	62	41·8	61
	18	0	0	25·2	42·2	62	41·7	61
	19	30	0	28·5	42·8	62	42·3	61
	20	0	0	31·1	41·5	62	42·8	61
	20	30	0	32·1	42·7	62	43·5	61
	22	0	0	30·6	41·9	61	44·1	61
	23	0	0	30·1	40·6	62	43·2	61
24	0	0	0	29·0	39·1	62	43·4	62
	2	0	0	28·1	38·2	63	40·1	62
	3	0	0	27·1	36·2	63	39·8	62
	4	0	0	26·0	35·0	63	40·2	63
	5	0	0	24·9	34·9	64	40·2	63
	6	0	0	23·2	34·4	63	40·2	63
	8	0	0	23·5	30·0	62	40·8	62
	10	0	0	25·5	34·1	62	42·9	62
	11	0	0	25·1	34·7	62	42·4	62
	12	0	0[b]	24·9	32·0	62	41·8	62

The Mean Positions during the Month are given in page 60.

Cape of Good Hope { Decl. 1 Scale Division = 0′·75 ; H. F. k = ·00018 ; q = ·0003

Positions at the usual hours of observation, from July 23rd, 0^h. to July 24th, 10^h.

23	0	0	0	51·2	72·7	56		
	2	0	0	51·5	65·8	58		
	4	0	0	53·0	67·0	59		
	6	0	0	52·0	67·3	59		
	8	0	0	52·1	67·4	59		
	10	0	0	51·4	65·0	59		
	12	0	0	50·4	64·8	59		
	14	0	0	50·5	65·5	59		

[a] Saturday midnight at Toronto.

[b] Saturday midnight at St. Helena.

July 23 and 24, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
23	16	0	0	53·5	70·8	58		
	18	0	0	53·8	69·9	58		
	20	0	0	56·9	73·7	58		
	22	0	0	54·0	69·0	58		
24	0	0	0	53·0	58·7	58		
	2	0	0	52·9	59·6	59		
	4	0	0	51·0	58·9	59		
	6	0	0	50·6	58·1	59		
	8	0	0	49·7	55·0	59		
	10	0	0[a]	51·0	60·0	59		

The Mean Positions during the Month are given in page 60.

Van Diemen Island { Decl. 1 Scale Division = 0′·71 ; H. F. k = ·0003 ; q = ; V. F. k = ; q =

Positions at the usual hours of observation, from July 23rd, 0^h. to July 24th, 2^h.

23	0	0	0	63·7	20·0	46	18·1	45
	1	0	0		22·5		16·4	
	2	0	0	63·3	22·6	44	16·8	44
	3	0	0		21·8		15·6	
	4	0	0	62·1	23·0	44	12·0	44
	5	0	0		22·9		19·8	
	6	0	0	63·2	28·1	42	21·5	43
	7	0	0		28·0		17·3	
	8	0	0	62·5	24·5	42	16·5	43
	9	0	0		26·0		16·6	
	10	0	0	64·2	25·8	41	18·6	41
	11	0	0		23·8		20·4	
	12	0	0	66·5	24·4	41	19·5	42
	13	0	0		23·8		17·3	
	14	0	0	65·0	22·4	43	17·5	43

July 23 and 24, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
h.	d.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
23	15	0	0		20·4		20·4	
	16	0	0	68·4	19·8	45	20·6	45
	17	0	0		19·7		18·1	
	18	0	0	73·1	18·7	46	21·1	45
	19	0	0		17·0		19·7	
	20	0	0	68·6	19·1	47	16·6	46
	21	0	0		17·5		17·5	
	22	0	0	61·5	13·9	47	19·6	46
	23	0	0		14·4		17·1	
24	0	0	0	57·9	13·9	47	16·9	46
	1	0	0		17·5		15·7	
	2	0	0[b]	62·8	18·3	48	15·7	47

The Mean Positions during the Month are given in page 61.

Antarctic Expedition at Garden Island, Sydney.

Decl. 1 Scale Division = 0′·73
H. F. k = ·000186; q =
V. F. = ; q =

Positions at the usual hours of observation, from July 23rd, 0^h. to July 24th, 2^h.

23	0	0	0	34·4	48·7	54	50·4	55
	1	0	0	33·8	53·7	53	50·4	55
	2	0	0	33·9	54·9	53	49·4	55
	3	0	0	34·1	54·9	53	48·8	55
	4	0	0	33·3	55·7	53	48·7	55
	5	0	0	34·6	55·3	52	49·5	55
	6	0	0	34·3	56·0	52	51·7	54
	7	0	0	39·9	57·6	51	51·5	55
	8	0	0	34·6	60·6	51	47·5	55
	9	0	0	35·0	61·1	52	47·9	55

July 23 and 24, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
23	10	0	0	35·0	61·3	51	50·2	55
	11	0	0	33·9	60·5	50	50·5	55
	12	0	0	35·2	61·2	50	51·6	55
	13	0	0	32·9	60·2	52	48·4	55
	14	0	0	34·1	54·0	54	48·9	55
	15	0	0	35·6	47·5	57	47·7	57
	16	0	0	36·6	43·8	61	47·5	61
	17	0	0	37·7	43·4	61	47·6	61
	18	0	0	39·7	41·4	62	48·6	62
	19	0	0	34·9	39·8	61	47·2	62
	20	0	0	38·2	43·3	61	48·0	61
	21	0	0	37·2	42·3	59	48·8	61
	22	0	0	33·5	41·0	57	48·9	60
	23	0	0	29·1	42·7	57	48·0	58
24	0	0	0	30·0	41·5	56	50·5	57
	1	0	0	29·9	47·1	55	50·6	55
	2	0	0[c]	32·3	49·9	54	52·7	54

The Mean Positions from July 19th to July 31st inclusive, are given in page 61.

August 2 and 3, 1841.

Toronto* { Decl. 1 Scale Division = 0′·72 ; H. F. k = ·000076 q ; = ·0002 ; V. F. k = ·000093 q ; = ·00018

Extra observations.

The V. F. was observed at 1^m. 30^s. before, and the H. F. 2^m. 30^s. after the times specified.

2	16	20	0	153·2	371·3	73	39·7	73
		25	0	155·1	372·8		42·8	
		30	0	151·8	373·6		43·5	

[a] Saturday midnight at the Cape of Good Hope.
[b] Saturday midnight at Van Diemen Island.
[c] Saturday midnight at Sydney.

* Toronto, August, 1841.—*Times of observation at which the magnetometers were disturbed, but the mean readings were not materially changed.*

d.	h.	
3	2	Decl., H. F., and H. V., moderately disturbed by shocks.
	12	Decl. and H. F. moderately disturbed by shocks.
	14	Decl. and H. F. slightly disturbed by shocks.
5	6	H. F. slightly disturbed and vibrating.
	10	H. F. moderately disturbed, vibrating with shocks.
	18	V. F. vibrating slightly.
	22	Decl. and H. F. considerable vibrations and shocks.
6	0	H. F. slightly disturbed, vibrating.
	6, 8, 10	Decl. and H. F. moderately disturbed with shocks.
	12	H. F. and V. F. considerably disturbed, vibrating.
	14	Decl. and H. F. considerably disturbed, vibrating.
7	0	Decl. much, H. F. moderately disturbed, vibrating.
	2	H. F. moderately disturbed, with shocks.
10	0	Decl. and H. F. much disturbed by shocks; V. F. vibrating very much.
11	2	Decl., slight shocks; H. F. slight vibrations.
	18	H. F. slight vibrations.
	20, 22	Decl. slight vibrations; H. F. moderate vibrations and shocks.
12	0	H. F. slight vibrations.
	2	Decl. slight shocks; H. F. slight vibrations.
13	0	Decl. moderate, vibrations and shocks; V. F. vibrating much.
	2	H. F. vibrating much, with shocks.
	20	V. F. considerable vibrations.
14	2	H. F. disturbed by shocks.
	16	H. F. and V. F. moderate vibrations; H. F. shocks.
15	18, 20	H. F. vibrating slightly.
16	0	Decl. and H. F. slight shocks.
	14	Decl. and H. F. moderate vibrations and shocks.
	16	H. F. moderate vibrations and shocks.
	20	H. F. slight vibrations.
17	8	H. F. moderate vibrations and shocks.
	10	Decl. and H. F. moderate vibrations.
	16	V. F. slight vibrations.
18	12	H. F. slight vibrations.
	14	V. F. slight vibrations.
19	0	Decl. and H. F. moderate shocks.
	8	H. F. vibrating slightly.
	10	Decl. and H. F. vibrating slightly.
20	0	Decl. and H. F. moderate vibrations and shocks; V. F. moderate vibrations.
	2	H. F. vibrating much.
	14	V. F. vibrating much.
21	0	Decl. and H. F. moderate shocks; V. F. vibrating much.
	8 & 10	H. F. moderate shocks; V. F. slight shocks at 10^h.
	16	Decl. slight shocks.
22	18	Decl. and H. F. slight vibrations.
	20	V. F. moderate vibrations.
	22	Decl. moderate shocks.
23	0 & 2	Decl. and H. F. vibrating much, with shocks.
	10	H. F. moderate vibrations and shocks.
	20	H. F. vibrating slightly.
24	0	Decl. moderate vibrations and shocks; H. F. vibrating very much; V. F. vibrating much.
	2	Decl. slight shocks; H. F. vibrating much, with shocks.
	22	Decl., H. F., and V. F. moderate vibrations and shocks.
25	2	Decl. slight shocks, H. V. moderate vibrations and shocks
	4	V. F. vibrating slightly.
	18	V. F. vibrating much.
	20	H. F. vibrating much, with shocks.
	22	Decl. and H. F. vibrations and shocks; V. F. vibrations.
26	4	H. F. moderate vibrations.
	14	V. F. vibrating much.
	16	H. F. vibrations.
	20	H. F. slight vibrations.
27	2	V. F. vibrating much.
28	4	Decl. slight vibrations.
30	6	H. F. moderate vibrations.
	20 & 22	Decl. moderate vibrations and shocks.
31	4	H. F. vibrations and shocks.
	8	H. F. slight vibrations.
	10	V. F. moderate vibrations.

August 2 and 3, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
2	16	35	0	146·9	374·8		44·5	
		40	0	145·0	376·5		45·	
		45	0	143·7	377·6		46·5	
		50	0	145·0	374·6		47·5	
		55	0	146·5	372·1		46·5	
	17	0	0	149·5	372·8	73	45·6	73
		5	0	150·9	368·7		44·1	
		10	0	151·1	364·2		42·2	
		15	0	153·4	362·8		41·3	
		20	0	153·0	380·9		40·5	
		25	0	153·1	360·1		40·0	
		30	0	154·0	362·3		41·1	
		35	0	153·0	363·0		41·6	
		40	0	152·7	363·4		41·3	
		45	0	151·3	365·0		41·9	
		50	0	149·4	362·8		41·5	
Positions at the usual hours of observation, August 2 and 3.								
2	0	0	0	150·3	392·7	67	54·7	67
	2	0	0	146·1	387·5	68	54·6	68
	4	0	0	139·0	381·3	70	52·2	69
	6	0	0	123·7	384·3	71	51·5	71
	8	0	0	126·6	390·0	73	51·1	71
	10	0	0	135·0	398·4	74	51·7	72
	12	0	0	137·5	390·3	75	56·3	73
	14	0	0	151·6	352·6	74	61·8	73
	16	0	0	167·4	364·9	73	32·7	73
	18	0	0	146·9	360·1	72	45·9	73
	20	0	0	139·4	385·0	71	53·9	71
	22	0	0	141·4	390·7	70	53·7	70
3	0	0	0	149·6	399·4	69	53·0	70
	2	0	0	147·8	385·6	71	46·4	71
	4	0	0	144·8	364·9	72	48·6	71
	6	0	0	132·6	377·5	73	51·7	72
	8	0	0	129·9	378·0	73	51·9	72
	10	0	0	133·0	383·0	74	55·6	73
	12	0	0	137·1	370·4	74	58·9	73
	14	0	0	138·4	374·0	74	49·4	73
	16	0	0	137·5	377·2	73	52·1	73
	18	0	0	134·9	361·9	73	43·1	72
	20	0	0	141·9	362·0	72	41·3	72
	22	0	0	140·0	364·4	71	45·3	71
Mean Positions at the same hours during the Month.								
	0	0	0	143·8	391·5	68	53·8	68
	2	0	0	145·5	385·4	69	51·7	69
	4	0	0	137·8	368·9	70	51·6	70
	6	0	0	127·8	374·8	71	51·3	70
	8	0	0	126·9	390·3	72	51·8	71
	10	0	0	131·9	395·2	73	52·1	72
	12	0	0	133·8	387·2	73	53·7	72
	14	0	0	139·7	375·6	72	52·0	72
	16	0	0	142·3	375·3	71	49·0	71
	18	0	0	138·4	379·8	70	48·9	70
	20	0	0	138·6	381·1	69	47·5	70
	22	0	0	137·7	386·6	69	50·3	69

St. Helena { Decl. 1 Scale Division = 0′·71
H. F. k = ·00018 q; = ·00025
V. F. k = ·00017 q; =

Regular and extra observations.

The V. F. was observed at 2^m. 30^s. before, and the H. F. 2^m. 30^s. after the times specified.

2	0	0	0	25·2	48·2	64	39·2	63
	2	0	0	22·9	46·2	64	37·5	64

August 2 and 3, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
2	3	0	0	23·7	44·1	64	38·5	64
	4	0	0	25·9	44·0	65	39·3	64
	5	0	0	24·9	41·9	65	37·1	64
	6	0	0	23·8	41·3	65	36·5	64
	8	0	0	25·0	40·1	64	36·5	64
	10	0	0	25·2	42·0	64	36·1	63
	11	0	0	25·2	41·1	64	36·1	63
	12	0	0	24·3	37·9	64	35·3	63
		10	0	24·2	36·5			
		15	0	24·8				
		20	0	24·9	35·4		35·5	
		25	0	25·0				
		30	0	25·1	34·9		35·9	
		35	0	25·1				
		40	0	25·2	35·1		35·9	
		45	0	25·2				
		50	0	25·0	37·0		35·6	
		55	0	24·9				
	13	0	0	24·7	38·0	64	35·5	63
		10	0	23·9	38·8		35·4	
		20	0	23·9	38·1		35·4	
		25	0	23·9				
		30	0	23·5	37·9		35·6	
		35	0	22·9				
		40	0	23·9	36·8		35·7	
		45	0	23·9				
		50	0	24·0	36·3		35·7	
		55	0	24·1				
	14	0	0	24·1	35·9	64	35·8	
		5	0	24·1				63
		10	0	24·0	35·3		35·8	
		15	0	23·9				
		20	0	23·8	35·0		35·6	
		25	0	23·8				
		30	0	23·8	34·7		35·6	
		35	0	23·6				
		40	0	23·7	34·4		35·0	
		45	0	23·9				
		50	0	23·9	34·0			
		55	0	23·8				
	15	0	0	23·8	33·7	64	35·9	
		5	0	23·9				63
		10	0	23·9	33·7		35·9	
		15	0	23·9				
		20	0	24·0	34·4		35·8	
		25	0	24·2				
		30	0	24·1	36·2		35·8	
		35	0	24·1				
		40	0	24·9	40·0		36·6	
		45	0	24·8				
		50	0	24·8	41·1		36·5	
		55	0	24·8				
	16	0	0	24·9	42·0	64	36·6	
		5	0	25·0				63
		10	0	25·6	41·8		36·6	
		15	0	26·0				
		20	0	26·0	41·2		36·8	
		25	0	26·0				
		30	0	25·9	41·0		36·8	
		35	0	25·9				
		40	0	25·7	41·0		36·8	
		45	0	25·7				
		50	0	25·8	41·0		36·8	
		55	0	25·4				
	17	0	0	25·2	41·0	63	36·8	
		5	0	25·1				
		10	0	25·0	41·2		36·8	

August 2 and 3, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
2	17	15	0	24·9				
		20	0	24·9	41·1			
		25	0	25·0				
		30	0	25·0	41·0		36·6	
		35	0	24·9				
		40	0	24·9	40·9		36·5	
		45	0	24·9				
		50	0	25·0	40·1		36·5	
		55	0	25·0				
	18	0	0	25·0	40·0	63	36·5	62
		5	0	25·0				
		10	0	25·0	41·0		36·5	
		15	0	25·0				
		20	0	25·0	40·4		36·5	
		25	0	25·1				
		30	0	25·8	40·2		36·5	
		35	0	26·2				
		40	0	26·7	40·3		36·5	
		45	0	26·9				
		50	0	27·0	40·9		36·5	
		55	0	27·0				
	19	0	0	27·1	41·0	63	36·5	62
		5	0	27·3				
		10	0	27·9	40·9		36·5	
		15	0	28·0				
		20	0	28·1	41·0		36·5	
		25	0	28·9				
		30	0	29·1	40·9		36·7	
		35	0	29·2				
		40	0	29·7	41·1			
		45	0	29·9				
		50	0	29·9	42·1		36·9	
		55	0	30·1				
	20	0	0	31·0	42·0	63	37·0	62
		5	0	31·9				
		10	0	31·9	42·0		37·6	
		15	0	32·2				
		20	0	32·1	42·0		37·6	
		25	0	32·0				
		30	0	31·9	42·1		37·5	
		35	0	31·9				
		40	0	31·4	42·1		37·7	
		45	0	31·1				
		50	0	31·1	42·8		37·7	
		55	0	30·8				
	21	0	0	30·1	43·1	63	37·9	62
		5	0	30·0				
		10	0	29·9	44·0		37·9	
		15	0	29·5				
		20	0	29·4	44·9		37·9	
		25	0	29·0				
		30	0	29·0	46·0		37·9	
		35	0	29·3				
		40	0	29·4	45·9		38·1	
		45	0	29·0				
		50	0	29·0	46·0		38·1	
		55	0	28·9				
	22	0	0	28·2	47·0	63	38·2	63
		5	0	28·2				
		10	0	28·2	46·9		38·5	
		15	0	28·1				
		20	0	28·0	46·9		38·3	
		25	0	28·0				
		30	0	27·9	46·9		38·3	
		35	0	27·6				
		40	0	27·1	46·5		38·3	
		45	0	27·0				

August 2 and 3, 1841.																			
M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.		M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.		M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °	d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °	d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
2	22	50	0	27·0	46·9		38·2		3	4	25	0	23·1					3	10	0	0	24·6	37·0	65	32·9	65
		55	0	27 4							30	0	23·1	37·8		33·8				5	0	24·8				
	23	0	0	27·9	49·8	63	38·8	63			35	0	23·0							10	0	24·9	37·2		33·2	
		5	0	28·0							40	0	23·0	37·6		33·4				15	0	24·9				
		10	0	27·1	50·0		38·9				45	0	23·0							20	0	24·9	37·2		32·2	
		15	0	27·0							50	0	23·0	37·8		32·9				25	0	25·0				
		20	0	27·0	49·1		38·8				55	0	23·0							30	0	25·0	37·0		32·2	
		25	0	27·0						5	0	0	23·0	37·6	66	32·4	65			35	0	25·4				
		30	0	27·3	49·2		38·9				5	0	22·9							40	0	25·3	37·1		32·5	
		35	0	27·1							10	0	22·9	38·0		31·8				45	0	25·3				
		40	0	26·6	50·0		38·9				15	0	23·0							50	0	25·4	37·3		32·3	
		45	0	26·1							20	0	23·0	38·5		31·8				55	0	25·4				
		50	0	26·0	49·1		38·7				25	0	23·1						11	0	0	25·4	36·9	65	32·3	64
		55	0	25·5							30	0	23·2	38·2		31·8				5	0	25·6				
3	0	0	0	25·2	48·8	64	38·4	63			35	0	23·2							10	0	25·0	35·2		32·0	
		5	0	25·1							40	0	23·5	38·0		31·6				15	0	25·0				
		10	0	25·5	49·0		38·4				45	0	23·7							20	0	25·0	35·9		32·2	
		15	0	25·1							50	0	23·8	38·4		31·5				25	0	25·0				
		20	0	25·7	50·0		38·7				55	0	24·0							30	0	25·0	35·4		32·0	
		25	0	25·7						6	0	0	24·1	38·1	66	31·6	65			35	0	24·9				
		30	0	26·9	50·0		38·6				5	0	24·3							40	0	24·8	34·9		32·0	
		35	0	26·3							10	0	24·4	38·1						45	0	25 0				
		40	0	26·0	48·3		38·9				15	0	24·2							50	0	25·0	35·4		32·0	
		45	0	26·0							20	0	24·2	38·0						55	0	25·5				
		50	0	26·0	47·8		38·1				25	0	24·2						12	0	0	25·3	36·0	65	31·7	64
		55	0	26·1							30	0	24·3	37·7		31·8				5	0	25·7				
	1	0	0	26·3	47·1	64	38·3	64			35	0	24·3							10	0	25·9	36·2		31·9	
		5	0	26·0							40	0	24·3	37·1		31·8				15	0	26·0				
		10	0	25·0	46·0		37·9				45	0	24·1							20	0	26·0	36·6		33·1	
		15	0	24·9							50	0	24·1	37·1		31·8				25	0	26·2				
		20	0	24·3	45·9		37·7				55	0	24·2							30	0	26·4	37·0		33·0	
		25	0	24·3						7	0	0	24·2	37·9		32·3				35	0	26·3				
		30	0	24·9	46·0		37·7				5	0	24·5							40	0	26·3	37·1		32·8	
		35	0	25·0							10	0	24·8	37·0		32·3				45	0	26·2				
		40	0	24·8	45·6		37·8				15	0	24·8							50	0	26·2	37·6		33·0	
		45	0	24·1							20	0	24·7	36·7		32·2				55	0	26·2				
		50	0	24·0	44·1		37·8				25	0	24·2						13	0	0	26·1	38·1	65	33·5	64
		55	0	24·1							30	0	24·2	36·2						5	0	26·0				
2	0	0	0	24·3	43·7	64	37·8	64			35	0	24·0							10	0	25·9	38·2		33·2	
	5	0		24·7							40	0	24·0	36·0		32·2				15	0	25·8				
	10	0		24·9	44·0		38·0				45	0	24·1							20	0	25·6	38·0		32·6	
	15	0		24·9							50	0	24·1	35·9		32·2				25	0	25·2				
	20	0		24·2	43·7		38·0				55	0	24·1							30	0	25·2	37·2		32·2	
	25	0		23·9						8	0	0	24·1	35·1	65	32·2	65			35	0	25·1				
	30	0		23·1	41·9		37·7				5	0	24·1							40	0	25·2	37·2		32·2	
	35	0		23·2							10	0	24·1	35·1		32·2				45	0	25·9				
	40	0		23·0	41·0		37·6				15	0	24·1							50	0	26·1	37·4		32·2	
	45	0		23·0							20	0	24·5	35·6		32·1				55	0	26·7				
	50	0		23·3	40·6		37·4				25	0	24·7						14	0	0	27·0	38·9	64	33·0	64
	55	0		23·6							30	0	24·9	35·9		32·1				5	0	27·0				
3	0	0		23·7	40·0	65	37·3	65			35	0	24·9							10	0	27·0	40·0		33·0	
	5	0		23·5							40	0	24·9	36·0		31·9				15	0	26·9				
	10	0		23·3	40·2		37·3				45	0	24·9							20	0	26·9	40·0		33·2	
	15	0		23·1							50	0	24·9	35·2		31·9				25	0	26·9				
	20	0		22·6	39·9		37·1				55	0	24·9							30	0	26·9	40·8		33·2	
	25	0		22·1						9	0	0	25·1	35·1		31·9				35	0	26·9				
	30	0		22·2	39·2		37·0				5	0	25·0							40	0	26·9	40·5		33·2	
	35	0		22·4							10	0	24·9	35·1		31·9				45	0	26·9				
	40	0		22·5	39·1		36·3				15	0	24·8							50	0	26·9	40·0		33·2	
	45	0		22·9							20	0	24·2	35·0		31·8				55	0	26·8				
	50	0		23·2	39·9		36·0				25	0	24·3						15	0	0	26·8	39·9	64	33·2	63
	55	0		23·4							30	0	24·6	35·4		31·8				5	0	26·8				
4	0	0		23·7	39·1	66	35·7	65			35	0	24·7							10	0	26·8	40·0		33·2	
	5	0		23·6							40	0	24·8	36·0		31·7				15	0	26·5				
	10	0		23·5	38·6		34·6				45	0	24·8							20	0	26·2	40·0		33·1	
	15	0		23·5							50	0	24·6	36·3		31·9				25	0	26·1				
	20	0		23·3	38·0		34·3				55	0	24·4							30	0	26·1	39·5		33·0	

August 2 and 3, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
3	15	35	0	26·1				
		40	0	26·1	39·9		33·0	
		45	0	26·2				
		50	0	26·2	39·8		33·0	
		55	0	26·8				
	16	0	0	26·8	39·8	64	33·0	63
		5	0	26·1				
		10	0	26·1	39·8		33·4	
		15	0	26·1				
		20	0	26·1	39·8		33·2	
		25	0	26·1				
		30	0	26·1	39·9		33·2	
		35	0	26·1				
		40	0	26·1	40·0		33·1	
		45	0	26·1				
		50	0	26·2	40·0		33·5	
		55	0	26·2				
	17	0	0	26·2	40·1	64	33·5	
		5	0	26·1				
		10	0	26·1	40·1		33·4	
		15	0	26·1				
		20	0	26·1	39·9		33·4	
		25	0	26·1				
		30	0	26·1	40·1		33·2	
		35	0	26·1				
		40	0	26·1	41·0		33·2	
		45	0	26·1				
		50	0	26·1	41·0		33·2	
		55	0	26·1				
	18	0	0	26·1	41·0	64	33·1	63
		5	0	26·1				
		10	0	26·5	41·1			
		15	0	26·2				
		20	0	26·7	41·1		33·6	
		25	0	27·0				
		30	0	26·8	41·1		33·4	
		35	0	27·0				
		40	0	27·1	41·7		33·4	
		45	0	27·1				
		50	0	27·6	41·9		33·4	
		55	0	27·9				

Mean Positions at the same hours of observation during the Month.[a]

0	0	0	24·4	52·4	62	
2	0	0	24·7	50·4	63	
3	0	0	25·2	48·4	63	
4	0	0	25·8	46·5	63	
5	0	0	25·7	44·9	64	
6	0	0	25·4	43·8	64	
8	0	0	25·6	42·9	63	
10	0	0	26·0	42·7	63	
11	0	0	25·9	42·8	62	
12	0	0	26·3	42·7	63	
13	0	0	26·2	43·6	62	
14	0	0	26·1	44·5	62	
15	0	0	26·0	44·0	62	
16	0	0	26·4	45·6	62	
18	0	0	27·1	46·1	62	
19	30	0	30·1	46·6	62	
20	0	0	30·3	46·8	62	

August 2 and 3, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
	20	30	0	29·6	47·3	62		
	22	0	0	26·3	49·7	62		
	23	0	0	25·3	51·6	62		

Cape of Good Hope.[b]

Van Diemen Island { Decl. 1 Scale Division = 0′·71 ; H. F. k = ·0003 ; q = ; V. F. k = ; q =

Extra observations.

The V. F. was observed at 2^m. 30^s. before, and the H. F. 2^m. 30^s. after the times specified.

3	1	20	0	54·2	31·5	50		
		25	0	55·7				
		30	0	55·6	31·5		65·0	50
		35	0	57·2				
		40	0	58·4	31·7		64·6	
		45	0	55·6				
		52	30	51·8	32·2		64·1	
	2	7	30	50·4	31·6	50	62·5	50
		15	0	50·2	30·2		61·9	
		22	30	51·6			63·8	
		30	0	54·4	31·1		65·2	
		37	30	55·7	32·1		65·9	
		45	0	55·5	32·2		64·8	

Positions at the usual hours of observation, August 2 and 3.

2	0	0	0	57·3	34·4	49	66·5	48
	1	0	0	61·8	39·3		60·7	
	2	0	0	51·9	35·4	47	65·6	46
	3	0	0	57·2	36·3		60·9	
	4	0	0	56·4	36·6	46	62·2	47
	5	0	0	57·3	37·3		64·5	
	6	0	0	57·8	38·3	46	66·7	45
	7	0	0	56·6	38·6		65·6	
	8	0	0	56·7	39·8	45	65·6	45
	9	0	0	57·2	41·1		66·2	
	10	0	0	57·9	41·1	44	65·0	44
	11	0	0	56·1	40·0		64·5	
	12	0	0	57·6	39·6	44	67·0	44
	13	0	0	55·2	38·5		64·1	
	14	0	0	59·6	35·8	46	67·2	46
	15	0	0	62·5	35·6		64·7	
	16	0	0	64·8	33·1	50	63·9	49
	17	0	0	63·8	35·5		58·7	
	18	0	0	67·1	35·2	50	61·9	50
	19	0	0	67·8	35·8		60·2	
	20	0	0	68·9	37·1	50	60·4	50
	21	0	0	62·7	36·4		57·3	
	22	0	0	62·5	34·8	52	60·1	50
	23	0	0	55·2	35·2		60·0	
3	0	0	0	59·2	34·5	50	64·9	49
	1	0	0	51·0	31·1		64·5	
	2	0	0	51·0	32·0	50	62·9	49
	3	0	0	53·5	33·2		62·0	
	4	0	0	53·4	40·6	50	54·1	49
	5	0	0	54·0	35·6		59·5	
	6	0	0	57·9	35·4	49	63·6	48
	7	0	0	57·6	36·0		63·1	

August 2 and 3, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
3	8	0	0	57·8	36·2	48	63·3	48
	9	0	0	58·4	36·0		63·3	
	10	0	0	60·6	36·9	48	63·6	47
	11	0	0	59·9	38·5		62·4	
	12	0	0	61·5	36·4	47	64·7	47
	13	0	0	59·4	35·7		59·6	
	14	0	0	57·2	36·3	48	64·7	47
	15	0	0	60·4	36·5		59·2	
	16	0	0	62·1	36·8	49	60·5	48
	17	0	0	62·7	36·2		62·3	
	18	0	0	61·3	35·4	50	63·7	48
	19	0	0	65·5	28·8		73·0	
	20	0	0	61·2	32·5	49	64·3	48
	21	0	0	61·3	33·6		66·0	
	22	0	0	59·5	34·0	48	64·3	47
	23	0	0	56·3	38·6		61·9	

Mean Positions at the same hours during the Month.

0	0	0	60·0	35·4	51	58·5	50
1	0	0	58·8	35·6		59·1	
2	0	0	58·0	36·2	50	58·3	49
3	0	0	59·5	36·3		58·1	
4	0	0	59·1	36·9	49	58·9	49
5	0	0	59·7	37·4		60·3	
6	0	0	59·6	37·5	48	60·6	48
7	0	0	61·1	37·9		61·2	
8	0	0	61·3	38·1	48	60·8	47
9	0	0	61·7	38·7		60·5	
10	0	0	61·6	39·0	47	59·9	47
11	0	0	61·5	38·7		60·3	
12	0	0	60·3	38·2	48	58·6	48
13	0	0	60·0	36·9		57·6	
14	0	0	60·9	34·9	50	57·6	50
15	0	0	62·9	34·1		57·2	
16	0	0	64·6	33·4	52	57·4	51
17	0	0	66·0	34·1		57·5	
18	0	0	66·4	34·4	53	57·3	52
19	0	0	65·9	34·4		57·4	
20	0	0	64·4	34·5	53	58·3	52
21	0	0	63·0	34·5		57·9	
22	0	0	61·8	34·8	52	57·8	51
23	0	0	60·5	35·9		57·6	

August 5, 6, and 7, 1841.

Toronto { Decl. 1 Scale Division = 0′·72 ; H. F. k = ·000076 ; q = ·0002 ; V. F. k = ·000093 ; q = ·00018

Extra observations.

The V. F. was observed at 1^m. 30^s. before, and the H. F. 2^m. after the times specified.

6	2	20	0	125·3	359·7	70	39·7	69
		25	0	122·5	359·2		40·1	
		30	0	120·7	362·8		40·4	
		35	0	121·3	362·7		40·2	
		40	0	122·5	363·0		40·1	
		45	0	123·6	373·7		42·2	
		50	0	126·6	376·3		42·8	
		55	0	128·5	375·1		44·5	
	3	0	0	127·8	382·0	70	44·5	70

[a] The connexion of the observations with the V. F. magnet at different periods of the month, is too uncertain to allow of mean positions being deduced.

[b] The magnetometers were employed in experimental determinations on the 2nd and 3rd of August.

August 5, 6, and 7, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
6	3	5	0	129·5	383·3		46·2	
		10	0	132·0	382·4		45·5	
		15	0	133·1	385·1		45·8	
		20	0	134·8	383·2		48·0	
		25	0	136·5	380·1		47·3	
		30	0	135·8	387·6		47·3	
		35	0	137·4	384·2		47·2	
		40	0	136·9	384·3		47·4	
		45	0	137·9	383·5		48·1	
		50	0	138·4	382·9		48·1	
	14	30	0[a]	126·3	321·9	73	51·3	72
		35	0	134·0	331·5		69·9	
		40	0	149·0	345·4		78·0	
		45	0		340·9		73·4	
		50	0	156·9	333·2		61·1	
		55	0	161·0	337·2		50·0	
	15	0	0	168·6	346·4	73	40·5	72
		5	0	152·9	370·5		30·2	
		10	0	99·5	327·7		19·0	
		15	0	91·7	328·7		32·6	
		20	0	134·2	370·0		59·3	
		25	0	137·1	379·7		66·0	
		30	0	140·7	361·7		61·5	
		35	0	149·3	373·7		60·7	
		40	0	134·1	364·0		54·3	
		45	0	133·5	360·6		55·7	
		50	0	136·7	359·8		58·4	
		55	0	135·9	359·3		57·2	
	16	5	0	137·3	355·9	72	56·4	72
		10	0	143·3	358·8		56·0	
		15	0	148·1	362·9		56·1	
		20	0	147·0	363·6		53·4	
		25	0	143·7	359·3		49·2	

Positions at the usual hours of observation, August 5, 6, and 7.

5	0	0	0	138·5	380·8	70	51·6	70
	2	0	0	147·9	387·4	70	52·5	70
	4	0	0	142·2	350·5	72	48·0	71
	6	0	0	131·9	373·1	73	49·7	72
	8	0	0	126·1	385·8	74	52·7	73
	10	0	0	129·6	378·1	75	58·7	73
	12	0	0	128·0	368·2	75	52·3	73
	14	0	0	136·8	370·0	73	51·0	73
	16	0	0	145·3	351·0	71	53·1	72
	18	0	0	146·5	364·4	70	45·4	71
	20	0	0	148·6	361·5	69	41·0	69
	22	0	0	148·7	349·0	68	42·5	68
6	0	0	0	147·7	382·7	67	54·0	68
	2	0	0	123·8	349·1	69	37·9	69
	4	0	0	142·1	382·9	71	49·4	70
	6	0	0	117·0	365·7	72	53·6	71

August 5, 6, and 7, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
6	8	0	0	127·3	399·2	73	66·0	71
	10	0	0	148·2	415·5	73	66·9	71
	12	0	0	125·5	454·6	74	80·7	72
	14	0	0	173·9	337·5	73	40·7	72
	16	0	0	136·3	356·6	71	57·6	72
	18	0	0	139·0	371·3	70	55·2	71
	20	0	0	138·7	382·8	69	45·7	69
	22	0	0	143·0	394·5	69	43·0	69
7	0	0	0	141·9	360·1	66	51·9	67
	2	0	0	149·0	381·9	68	56·4	68
	4	0	0	141·2	361·9	70	53·1	69
	6	0	0	127·9	373·8	71	54·7	70
	8	0	0	128·3	381·8	72	53·1	71
	10	0	0	132·7	386·4	73	52·3	72
	12	0	0	133·8	376·9	73	52·4	72
	14	0	0	134·2	371·1	73	52·1	73
	16	0	0[b]	134·5	376·0	70	53·8	71

The Mean Positions at the same hours during the Month are given in page 64.

St. Helena { Decl. 1 Scale Division = 0′·71
H. F. k = ·00018; q = ·00025
V. F. k = ·00017; q =

Extra observations.

The V. F. was observed at 2^m. 30^s. before, and the H. F. 2^m. 30^s. after the times specified.

6	2	15	0	26·4		64		63
		20	0	26·1	40·6		30·5	
		25	0	26·0				
		30	0	25·9	39·8		30·5	
		35	0	25·5				
		40	0	25·6	40·1		30·5	
		45	0	25·2				
		50	0	25·1	40·2		30·5	
		55	0	25·1				
	3	0	0	25·1	37·9	64	30·0	
		5	0	24·9				
		10	0	24·3	37·7		29·5	
		15	0	24·3				
		20	0	24·1	38·0		29·0	
		25	0	24·2				
		30	0	24·2	38·1		29·3	
		35	0	24·4				
		40	0	24·8	38·5		29·3	
		45	0	24·8				
		50	0	24·8	39·1		29·3	
		55	0	24·8				
	4	0	0	24·7	39·8	64	29·3	64
		5	0	24·7				
		10	0	24·7	39·0		29·3	

August 5, 6, and 7, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	hr.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
6	4	15	0	24·8				
		20	0	24·8	38·9		29·3	
		25	0	24·5				
		30	0	24·7	37·8		29·3	
		35	0	24·1				
		40	0	24·0	36·9		29·3	
		45	0	23·9				
		50	0	23·6	35·9		29·1	
		55	0	23·1				
	5	0	0	23·0	35·0	65	29·1	
		5	0	22·9				
		10	0	22·9	33·2		29·1	
		15	0	22·9				
		20	0	22·2	32·1		28·6	
		25	0	22·3				
		30	0	22·1	31·7		27·6	
		35	0	21·7				
		40	0	21·9	30·5		27·3	
		45	0	22·2				
		50	0	22·1	29·8		27·3	
		55	0	22·5				
	6	0	0	22·3	29·0	65	27·0	64
		5	0	22·1				
		10	0	22·1	28·9		26·8	
		15	0	22·1				
		20	0	22·2	28·4		26·8	
		25	0	22·7				
		30	0	22·9	28·0		26·6	
		35	0	23·0				
		40	0	23·0	27·0		26·5	
		45	0	23·1				
		50	0	23·1	26·0		26·7	
		55	0	23·0				
	7	0	0	23·0	25·1	65	26·4	
		5	0	22·9				
		10	0	22·8	24·8		25·8	
		15	0	22·9				
		20	0	23·0	23·4		25·7	
		25	0	22·9				
		30	0	22·9	22·7		25·6	
		35	0	22·9				
		40	0	22·6	22·8		25·7	
		45	0	22·4				
		50	0	22·9	22·1		25·7	
		55	0	22·9				
	8	0	0	22·9	22·5	65	25·9	65
		5	0	23·0				
		10	0	23·9	21·0		25·9	
		15	0	24·1				
		20	0	24·0	20·0		25·9	
		25	0	24·2				
		30	0	24·2	20·1		25·8	
		35	0	24·0				

d. h. m.

[a] 6 14 0 Wind S.W. very light. Cirri dispersed about; low range of cirro-strati in North; dense haze in South horizon; fair.

30 Bright streamers in East extending to zenith; became fainter in a few minutes; bright bank of light in North, altitude 45°.

45 Bank brighter in North; faint streamers in N.W.; streamers in East disappeared.

50 Streamers still faint in N.W.; a number of faint streamers appearing in North, occasionally becoming bright, and again dying away.

15 5 Faint streamers in the East, several bright streamers North by West.

10 Several streamers in East shooting across from East by North, to the South of the zenith.

d. h. m.

6 15 15 Magnificent arch of light extending from N.W. to S.S.E. across the sky a little to the South of zenith, light very bright in N.W., and on dying away appearing to move as bright cirri across the sky; in 5 minutes it had entirely disappeared.

23 No appearance of Aurora except moderately bright light in North; streamers not visible.

28 Streamers in the North.

40 Streamers visible at intervals.

45 No traces of auroral light; cirri generally over the sky; haze in horizon.

16 0 A few light cirri scattered about. No further appearance of Aurora during the night.

[b] Saturday midnight at Toronto.

August 5, 6, and 7, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
6	8	40	0	24·0	20·9		25·7	
		45	0	24·1				
		50	0	23·9	20·9		24·7	
		55	0	23·7				
	9	0	0	23·4	26·2		24·0	
		5	0	23·8				
		10	0	23·9	34·1		24·9	
		15	0	23·2				
		20	0	23·9	36·9		24·8	
		25	0	24·9				
		30	0	25·1	35·0		24·9	
		35	0	25·9				
		40	0	26·0	33·0		25·0	
		45	0	26·0				
		50	0	26·0	32·0		25·0	
		55	0	26·0				
	10	0	0	26·0	30·0	65	24·9	64
		5	0	26·1				
		10	0	26·1	28·0		25·4	
		15	0	26·1				
		20	0	26·0	27·0		25·4	
		25	0	26·0				
		30	0	26·0	26·9		25·4	
		35	0	26·0				
		40	0	26·0	26·0		25·4	
		45	0	26·0				
		50	0	25·9	25·1		25·4	
		55	0	25·2				
	11	0	0	25·1	26·0	64	25·3	
		5	0	25·0				
		10	0	24·9	28·0		25·6	
		15	0	24·9				
		20	0	24·9	31·0		25·7	
		25	0	25·3				
		30	0	25·9	31·8		25·7	
		35	0	26·8				
		40	0	26·9	31·8		25·8	
		45	0	26·2				
		50	0	26·1	31·0		25·7	
		55	0	25·5				
	12	0	0	24·9	30·0	64	25·6	64
		5	0	24·1				
		10	0	24·1	27·9		25·2	
		15	0	24·1				
		20	0	24·1	26·9		25·2	
		25	0	24·8				
		30	0	23·2	25·8		25·0	
		35	0	23·2				
		40	0	23·1	24·9		24·9	
		45	0	22·9				
		50	0	22·9	24·9		24·8	
		55	0	22·9				
	13	0	0	23·1	25·1	64	24·8	
		5	0	23·1				
		10	0	23·2	25·7		25·0	
		15	0	23·4				
		20	0	23·4	27·2		24·6	
		25	0	24·8				
		30	0	25·0	34·9		25·4	
		35	0	25·6				
		40	0	26·2	38·0		25·7	
		45	0	26·7				
		50	0	26·1	36·9		25·8	
		55	0	25·7				
	14	0	0	25·7	36·0	64	25·7	64
		5	0	25·4				
		10	0	25·2	35·2		25·7	

August 5, 6, and 7, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
6	14	15	0	25·0				
		20	0	24·8	34·9		25·7	
		25	0	24·6				
		30	0	24·5	33·0		25·3	
		35	0	23·8				
		40	0	23·9	32·8		25·3	
		45	0	24·0				
		50	0	24·0	31·9		25·5	
		55	0	24·1				
	15	0	0	24·2	31·4	64	25·5	
		5	0	24·2				
		10	0	24·2	30·3		25·7	
		15	0	24·3				
		20	0	24·9	30·2		25·8	
		25	0	25·2				
		30	0	25·4	30·7		26·1	
		35	0	25·8				
		40	0	26·0	30·9		26·5	
		45	0	26·4				
		50	0	26·0	31·1		26·4	
		55	0	25·6				
	16	0	0	26·0	31·9	64	26·3	63
		5	0	25·9				
		10	0	26·1	32·1		26·3	
		15	0	26·1				
		20	0	26·0	32·8		26·3	
		25	0	26·2				
		30	0	26·2	32·2			
		35	0	26·2				
		40	0	26·0	34·1		26·3	
		45	0	26·0				
		50	0	25·9	34·1		26·3	
		55	0	25·9				
	17	0	0	25·9	34·8		26·3	
		5	0	25·9				
		10	0	26·1	35·0		26·5	
		15	0	26·1				
		20	0	26·1	35·1		26·5	
		25	0	26·2				
		30	0	26·2	35·1		26·5	
		35	0	26·2				
		40	0	26·2	35·5		26·5	
		45	0	26·2				
		50	0	26·2	35·6		26·3	
		55	0	26·3				
	18	0	0	26·7	35·9	63	26·4	63
		5	0	26·7				
		10	0	26·7	36·0		26·4	
		15	0	26·6				
		20	0	26·6	36·0		26·5	
		25	0	26·6				
		30	0	26·5	36·6		26·5	
		35	0	26·8				
		40	0	26·9	37·1		26·5	
		45	0	27·1				
		50	0	27·2	37·8		26·5	
		55	0	27·6				
	19	0	0	27·9	38·0	63	26·6	
		5	0	28·0				
		10	0	28·1	38·2		26·6	
		15	0	28·2				
		20	0	28·5	38·9		26·6	
		25	0	29·5				
		30	0	29·4	39·2		26·9	
		35	0	29·8				
		40	0	30·5	40·1		26·9	
		45	0	30·9				

August 5, 6, and 7, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
6	19	50	0	31·0	40·9		27·2	
		55	0	30·8				
	20	0	0	31·0	41·3	63	27·2	63
		5	0	31·2				
		10	0	31·7	41·9		27·4	
		15	0	30·9				
		20	0	31·5	41·3		27·2	
		25	0	31·6				
		30	0	31·4	42·1		27·2	
		35	0	31·0				
		40	0	31·3	42·2		27·3	
		45	0	31·2				
		50	0	31·0	42·7		27·3	
		55	0	30·9				
	22	0	0	30·0	41·8	63	27·7	62
	23	0	0	29·9	43·0	63	26·8	63

Positions at the usual hours of observation, August 5, 6, and 7.

5	0	0	0	26·9	46·8	64	30·0	63
	2	0	0	27·7	46·9	64	30·7	64
	3	0	0	28·1	47·9	65	30·1	64
	4	0	0	27·8	42·9	65	28·1	65
	5	0	0	27·5	43·0	65	27·7	65
	6	0	0	25·9	39·1	65	27·6	65
	8	0	0	26·0	36·0	64	27·1	64
	10	0	0	27·1	36·0	64	27·7	64
	11	0	0	26·9	38·1	64	27·9	64
	12	0	0	27·2	37·8	64	27·8	64
	13	0	0	27·0	39·3	64	29·1	63
	14	0	0	26·4	38·6	64	28·3	63
	15	0	0	26·4	39·7	64	28·4	63
	16	0	0	26·8	41·8	64	28·5	63
	18	0	0	27·1	42·3	64	28·7	63
	19	30	0	31·0	41·0	64	29·2	63
	20	0	0	33·0	41·2	63	30·0	63
	20	30	0	32·9	41·5	63	29·6	63
	22	0	0	31·3	40·8	63	30·0	62
	23	0	0	30·5	42·2	63	29·9	63
6	0	0	0	27·8	43·9	64	30·2	63
	2	0	0	27·0	37·8	64	30·5	63
	3	0	0	25·1	37·9	63	30·0	64
	4	0	0	24·7	39·8	65	29·3	64
	5	0	0	23·0	35·0	65	29·1	64
	6	0	0	22·3	29·0	65	27·0	64
	8	0	0	23·0	25·1	65	25·6	65
	10	0	0	26·0	30·0	65	24·9	64
	11	0	0	25·1	26·0	64	25·3	64
	12	0	0	24·9	30·0	64	25·6	64
	13	0	0	23·1	25·1	64	23·0	64
	14	0	0	25·7	36·0	64	25·7	64
	15	0	0	24·2	31·4	64	25·5	64
	16	0	0	26·0	31·9	64	26·3	63
	18	0	0	26·7	35·9	63	26·4	63
	19	30	0	29·4	39·2	63	26·6	63
	20	0	0	31·0	41·3	63	27·2	63
	20	30	0	31·4	42·1	63	27·3	62
	22	0	0	30·0	41·8	63	27·7	62
	23	0	0	29·9	43·0	63	26·8	63
7	0	0	0	28·1	40·0	63	26·1	63
	2	0	0	27·5	39·9	64	26·8	64
	3	0	0	28·1	40·0	64	26·9	64
	4	0	0	27·6	38·0	64	25·8	64
	5	0	0	27·0	35·1	65	24·7	64
	6	0	0	26·5	36·8	64	24·4	64
	8	0	0	25·9	36·9	64	24·5	64

August 5, 6, and 7, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
7	10	5	0	26·1	37·1	64	23·0	63
	11	0	0	26·3	37·2	64	23·0	63
	12	0	0[a]	26·3	37·3	64	21·5	63

The Mean Positions at the same hours during the Month are given in page 66.

Cape of Good Hope — Decl. 1 Scale Division = 0′·75; H. F. k = ·000180; q = ·0003; V. F. k = ·000037; q =

Positions at the usual hours of observation, August 5, 6, and 7.

5	0	0	0	48·7	52·5	59	54·1	60
	2	0	0	52·0	52·3	59	41·8	60
	4	0	0	50·9	48·3	59	66·5	60
	6	0	0	51·2	47·0	59	60·0	60
	8	0	0	50·5	44·6	59	63·8	60
	10	0	0	49·5	46·0	59	63·1	60
	12	0	0	49·9	48·2	59	50·7	60
	14	0	0	50·4	48·0	59	59·0	60
	16	0	0	51·1	51·0	59	45·0	60
	18	0	0	53·0	51·2	59	39·2	60
	20	0	0	57·9	53·8	59	39·9	60
	22	0	0	53·8	53·0	59	66·5	59
6	0	0	0	51·6	54·0	59	62·3	59
	2	0	0	55·0	40·1	59	70·5	60
	4	0	0	49·2	47·5	60	64·3	60
	6	0	0	46·8	35·3	60	85·1	60
	8	0	0	44·1	32·0	60	89·6	60
	10	0	0	47·8	40·1	60	46·5	60
	12	0	0	44·5	43·6	60	66·1	60
	14	0	0	48·2	48·9	60	20·9	61
	16	0	0	48·0	41·3	59	52·7	60
	18	0	0	49·0	44·0	59	47·1	59
	20	0	0	52·1	48·9	59	28·4	59
	22	0	0	51·9	49·4	59	45·4	59
7	0	0	0	50·9	47·7	60	55·3	59
	2	0	0	50·5	46·1	60	57·7	60
	4	0	0	50·0	43·5	60	67·3	60
	6	0	0	49·8	43·7	60	58·6	60
	8	0	0	49·8	44·5	60	54·0	60
	10	0	0[b]	50·0	44·8	60	54·0	60

Mean Positions at the same hours during the Month.

	0	0	0	50·3	57·5	57	54·3	58
	2	0	0	52·3	54·1	58	54·1	58
	4	0	0	52·6	53·5	58	60·2	58
	6	0	0	51·8	52·8	58	62·2	58
	8	0	0	51·8	51·9	58	63·6	58
	10	0	0	51·8	52·3	58	62·7	58
	12	0	0	51·6	53·5	58	61·3	58
	14	0	0	52·8	55·5	57	57·0	58
	16	0	0	53·3	56·2	57	55·5	58
	18	0	0	54·6	56·5	57	50·9	57
	20	0	0	54·1	59·5	57	60·7	57
	22	0	0	49·7	59·9	57	67·2	57

[a] Saturday midnight at St. Helena.
[b] Saturday midnight at the Cape of Good Hope.

August 5, 6, and 7, 1841.

Van Diemen Island — Decl. 1 Scale Division = 0′·71; H. F. k = ·0003; q =; V. F. k = ; q =

Extra observations.

The V. F. was observed at 2^m. 30^s. before, and the H. F. 2^m. 30^s. after the times specified.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
6	2	10	0	41·8				
		22	30[c]	44·2	36·1	46	56·4	45
		30	0	46·9	34·6		58·2	
		37	30	48·2			60·9	
		45	0	46·8	32·1		63·0	
	3	5	0	48·2				
		10	0	50·4	32·9	46	65·0	46
		15	0	50·7				
		20	0	51·4	33·9		66·2	
		25	0	52·5				
		30	0	53·2	34·9		64·7	
		35	0	54·7				
		40	0	56·1	35·6		64·8	
		45	0	56·5				
		50	0	56·4	36·2		64·2	
	6	15	0	49·5		45		
		20	0	49·6	37·0		61·1	45
		25	0	50·3				
		30	0	51·8	38·6		59·5	
		35	0[d]	54·5				
		40	0	56·4	39·7		58·8	
		45	0	57·9				
		50	0	60·1	40·3		57·8	
	7	10	0	65·7	39·8	45		
		15	0	62·7				
		20	0	61·0	39·5		56·6	45
		25	0	60·9				
		30	0	60·6	39·8		55·0	
		35	0	61·0				
		40	0	62·6	40·1		54·3	
		45	0	62·4				
		50	0	61·1	38·7		52·4	
		55	0	64·3				
	8	5	0	64·3		46		
		10	0	63·1	37·3		53·6	48
		15	0	64·6				
		20	0	63·8	36·2		53·6	
		25	0	63·8				
		30	0	62·8	35·9		53·6	
		35	0	67·4				
		40	0	71·7	38·6		56·3	
		45	0	73·4				
		50	0	72·4	37·5		53·9	
	9	10	0	69·3	30·9	46		
		15	0	73·0				
		20	0	74·1	31·7		60·8	49
		25	0	75·1				
		30	0	76·1	39·9		60·8	
		35	0	72·9				
		40	0	72·2	42·9		50·1	
		45	0	72·6				
		50	0	72·6	41·6		42·1	
	10	10	0	68·6	38·0	46		
		15	0	69·2				
		20	0	69·8	36·9		45·8	50
		25	0	70·4				

[c] The Decl. magnet oscillating vertically.
[d] From 6^h. 35^m. to 6^h. 45^m. the Decl. magnet oscillating vertically.

August 5, 6, and 7, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
6	10	30	0	69·7	36·1		48·8	
		35	0	70·3				
		40	0	69·5	40·4		50·1	
		45	0	69·0				
		50	0	67·7	35·2		50·1	
	11	10	0	66·5	31·8	46		49
		15	0	64·9				
		20	0	63·7	30·9		55·4	
		25	0	62·4				
		30	0	62·1	30·4		56·3	
		35	0	62·5				
		40	0	62·9	28·8		58·5	
		45	0	64·5				
		50	0	65·3	27·8		60·9	
		55	0	66·1				
	12	5	0	67·9				
		10	0	68·6	29·5	47	62·9	49
		15	0	67·3				
		20	0	68·0	29·2		62·2	
		25	0	66·8				
		30	0	66·8	32·0		62·1	
		35	0	66·3				
		40	0	66·4	32·0		60·3	
		45	0	65·4				
		50	0	65·1			60·1	

Positions at the usual hours of observation, August 5, 6, and 7.

5	0	0	0	58·9	39·1	44	67·5	43
	1	0	0	58·6	39·1		69·6	
	2	0	0	58·3	39·9	44	67·2	44
	3	0	0	58·9	39·1		66·7	
	4	0	0	61·5	39·7	44	66·3	43
	5	0	0	57·4	39·8		66·9	
	6	0	0	55·6	39·9	44	66·8	43
	7	0	0	56·1	39·8		70·5	
	8	0	0	56·4	39·9	43	66·7	42
	9	0	0	65·3	46·2		63·2	
	10	0	0	60·7	44·4	44	56·1	44
	11	0	0	60·7	42·7		61·7	
	12	0	0	58·0	42·2	44	60·9	43
	13	0	0	56·4	39·6		62·7	
	14	0	0	58·1	37·0	44	66·0	44
	15	0	0	60·5	37·0		66·6	
	16	0	0	62·1	35·1	45	66·2	45
	17	0	0	64·4	36·5		66·4	
	18	0	0	65·8	35·5	46	67·4	46
	19	0	0	63·7	35·3		68·2	
	20	0	0	62·7	33·6	47	70·0	46
	21	0	0	63·2	32·0		72·2	
	22	0	0	59·2	32·0	46	70·2	45
	23	0	0	57·7	34·3		65·6	
6	0	0	0	56·8	35·8	46	66·2	45
	1	0	0	55·2	35·9		63·2	
	2	0	0	38·2	35·4	46	62·4	45
	3	0	0	45·9	31·3		64·9	
	4	0	0	55·7	35·9	47	63·1	47
	5	0	0	57·2	37·7		64·5	
	6	0	0	48·8	34·9	45	60·8	45
	7	0	0	62·7	39·3		56·9	
	8	0	0	65·0	37·2	46	54·6	48
	9	0	0	67·6	34·4		53·0	
	10	0	0	68·7	38·8	46	41·4	50

August 5, 6, and 7, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
6	11	0	0	66·9	34·2		50·4	
	12	0	0	67·3	29·5	47	63·1	49
	13	0	0	65·5	30·0		59·5	
	14	0	0	64·4	24·5	48	66·5	48
	15	0	0	66·7	29·0		63·0	
	16	0	0	61·4	34·6	48	52·6	48
	17	0	0	63·3	35·1		56·8	
	18	0	0	63·6	34·6	48	59·9	47
	19	0	0	66·1	33·2		64·9	
	20	0	0	63·6	35·5	48	63·4	47
	21	0	0	65·5	33·4		66·3	
	22	0	0	59·5	31·7	47	67·6	46
	23	0	0	59·4	32·4		69·6	
7	0	0	0	52·1	35·0	46	63·8	46
	1	0	0	52·1	34·5		66·0	
	2	0	0[a]	55·8	35·7	46	66·7	45

The Mean Positions at the same hours during the Month are given in page 66.

August 23 and 24, 1841.

Toronto { Decl. 1 Scale Division = 0′·72; H. F. k = ·000076; q = ·0002; V. F. k = ·000093; q = ·00018.

Extra observations.

The V. F. was observed at 1^m. 30^s. before, and the H. F. 2^m. after the times specified.

23	14	15	0	150·1	385·8	70	48·0	70
		20	0	145·2	388·7		55·8	
		25	0	141·3	385·5		51·3	
		30	0	138·3	386·9		51·6	
		35	0	138·0	388·2		51·5	
		40	0	137·6	392·2		51·6	
		45	0	137·0	392·1		51·7	
		50	0	136·7	389·5		51·7	
		55	0	135·3	386·2		52·3	
	15	0	0[b]	131·8	385·8	70	52·1	70
		5	0	131·6			53·2	
		10	0	131·1	386·2		52·8	
		15	0	132·9	385·3		52·2	

Positions at the usual hours of observation, August 23 and 24.

23	0	0	0	148·7	398·0	66	53·4	67
	2	0	0	148·1	398·0	68	52·1	68
	4	0	0	140·7	380·2	69	51·3	68
	6	0	0	129·3	388·4	70	52·2	69
	8	0	0	126·2	377·3	71	54·2	70
	10	0	0	123·5	410·0	72	56·4	70
	12	0	0	130·4	384·7	72	52·7	70
	14	0	0	158·6	369·6	70	54·4	70
	16	0	0	137·3	386·0	70	53·8	70
	18	0	0	136·9	391·7	68	55·0	68
	20	0	0	123·8	379·3	67	28·3	67
	22	0	0	141·4	394·7	65	52·7	66
24	0	0	0	138·5	393·7	64	52·4	65
	2	0	0	145·3	386·9	66	54·9	66
	4	0	0	132·2	373·5	68	54·2	67

[a] Saturday midnight at Van Diemen Island.

August 23 and 24, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
24	6	0	0	126·0	388·9	70	52·1	69
	8	0	0	126·1	399·1	71	51·5	69
	10	0	0	131·1	414·4	72	50·5	70
	12	0	0	132·4	394·8	72	49·4	71
	14	0	0	132·9	392·1	71	50·9	70
	16	0	0	134·0	398·0	69	52·2	69
	18	0	0	135·8	401·7	67	54·7	67
	20	0	0	136·4	398·3	66	55·2	66
	22	0	0	138·0	415·0	65	58·0	66

The Mean Positions at the same hours during the Month are given in page 64.

St. Helena { Decl. 1 Scale Division = 0′·71; H. F. k = ·00018; q = ·00025; V. F. k = ·00017; q =

Extra observations.

The V. F. was observed at 2^m. 30^s. before, and the H. F. 2^m. 30^s. after the times specified.

23	10	0	0	22·8	39·8	61		61
		5	0	22·9				
		10	0	23·0	41·0		49·4	
		15	0	23·3				
		20	0	22·9	42·8		49·3	
		25	0	22·9				
		30	0	23·0	45·2		49·3	
		35	0	23·1				
		40	0	23·7	48·3		49·3	
		45	0	23·8				
		50	0	23·8	49·8		49·3	
		55	0	23·7				
	11	0	0	22·9	48·8	61	49·4	61
		5	0	24·0				
		10	0	24·0	47·4		49·6	
		15	0	24·0				
		20	0	24·0	45·1		49·5	
		25	0	24·0				
		30	0	24·0	43·9		49·5	
		35	0	24·0				
		40	0	24·0	43·2		49·5	
		45	0	24·0				
		50	0	24·0	43·1		49·7	
		55	0	24·1				
	12	0	0	23·9	43·9	61	49·7	61
		5	0	23·9				
		10	0	23·9	43·8		49·7	
		15	0	23·9				
		20	0	23·9	43·4		49·7	
		25	0	23·7				
		30	0	23·8	43·9		50·3	
		35	0	23·9				
		40	0	23·9	44·2		50·3	
		45	0	23·8				
		50	0	24·0	44·8		50·4	
		55	0	24·0				
	13	0	0	24·0	44·9	61	50·5	61
		5	0	23·9				
		10	0	23·8	45·0		50·5	
		15	0					
		20	0	23·5	45·0			
		25	0	23·6				

August 23 and 24, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
23	13	30	0	23·9	46·0		50·6	
		35	0	24·0				
		40	0	24·5	47·1		50·8	
		45	0	25·3				
		50	0	25·0	50·3		51·1	
		55	0	25·5				
	14	0	0	25·4	51·1	61	51·1	61
		5	0	25·5				
		10	0	25·0	51·1		51·5	
		15	0	25·4				
		20	0	25·1	50·9		51·2	
		25	0	25·4				
		30	0	25·1	49·9		51·0	
		35	0	25·3				
		40	0	25·4	49·0		51·0	
		45	0	25·3				
		50	0	25·0	48·9		51·3	
		55	0	24·6				
	15	0	0	24·4	47·9	61	51·3	61
		5	0	24·7				
		10	0	25·0	48·0		51·4	
		15	0	24·6				
		20	0	24·9	47·9		51·6	
		25	0	24·6				
		30	0	24·8	48·0		51·2	
		35	0	24·8				
		40	0	24·7	47·1		51·2	
		45	0	24·7				
		50	0	24·8	47·3		51·2	
		55	0	24·9				
	24	1	0	0	19·1	52·0	62	51·5	61
			5	0					
			10	0	19·0	51·2			
			15	0	18·9				
			20	0	18·9	51·0		56·5	
			25	0	18·9				
			30	0	19·0	50·1		56·5	
			35	0	19·1				
			40	0	19·1	50·0		56·6	
			45	0	19·0				
			50	0	19·0			56·2	
			55	0	19·0				
		2	0	0	19·0	49·0	62	55·9	61
			5	0	19·0				
			10	0	19·2	49·2		55·5	
			15	0	19·6				
			20	0	19·6	49·9		55·6	
			25	0	19·8				
			30	0	19·9	49·5		55·5	
			35	0	19·9				
			40	0	20·0	48·9		55·3	
			45	0	20·0				
			50	0	20·0	48·0		55·1	
			55	0	20·1				
		3	0	0	20·9	47·1	62	54·8	61
			5	0	20·7				
			10	0	20·8	46·2		54·5	
			15	0	20·9				
			20	0	21·3	45·9		54·2	
			25	0	21·5				
			30	0	21·6	45·6		54·0	
			35	0	21·7				
			40	0	21·7	45·2		53·5	

[b] d. h. m.
23 15 0 Calm; clear and unclouded; very faint auroral light in the North.
16 0 Ditto.

August 23 and 24, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
24	3	45	0	21·7				
		50	0	21·9	45·1		53·6	
		55	0	21·9				
	4	0	0	22·1	45·0	62	53·3	62
		5	0	22·2				
		10	0	22·4	44·8		53·3	
		15	0	22·6				
		20	0	22·6	44·6		52·9	
		25	0	22·5				
		30	0	22·5	44·4		52·5	
		35	0	22·6				
		40	0	22·8	44·8		52·5	
		45	0	22·8				
		50	0	23·0	45·3		52·3	
		55	0	23·1				

Positions at the usual hours of observation, August 23 and 24.

23	0	0	0	22·9	56·4	61	52·0	61
	2	0	0	24·0	54·5	62	50·1	62
	3	0	0	24·6	52·8	63	49·1	62
	4	0	0	24·7	50·1	62	48·1	62
	5	0	0	22·0	45·0	63	47·1	62
	6	0	0	22·5	46·9	62	47·7	62
	8	0	0	22·8	42·0	62	48·6	62
	10	0	0	22·8	39·8	61	48·8	61
	11	0	0	22·9	48·8	61	49·4	61
	12	0	0	23·9	43·9	61	49·7	61
	13	0	0	24·0	44·9	61	50·5	61
	14	0	0	25·4	51·1	61	51·1	61
	15	0	0	24·4	47·9	61	51·3	61
	16	0	0	24·9	47·1	61	51·5	61
	18	0	0	25·9	47·9	60	51·9	60
	19	30	0	29·8	48·5	61	52·3	60
	20	0	0	30·8	47·8	60	53·5	60
	20	30	0	30·0	49·9	60	52·7	60
	22	0	0	25·0	52·0	60	53·7	60
	23	0	0	21·7	51·2	60	54·1	60
24	0	0	0	20·3	53·1	60	54·9	60
	2	0	0	19·0	49·0	61	55·9	61
	3	0	0	20·9	47·1	62	54·8	62
	4	0	0	22·1	45·0	62	53·3	62
	5	0	0	23·3	45·4	62	52·2	62
	6	0	0	23·7	46·5	62	51·4	62
	8	0	0	24·5	47·1	61	51·5	61
	10	0	0	24·8	48·0	61	50·9	61
	11	0	0	25·0	48·0	61	51·3	61
	12	0	0	25·0	47·9	61	51·4	60
	13	0	0	25·3	49·8	61	51·6	60
	14	0	0	25·9	49·2	60	52·1	60
	15	0	0	25·9	48·8	61	58·1	60
	16	0	0	26·1	49·0	60	60·0	60
	18	0	0	26·5	50·8	60	59·9	60
	19	30	0	29·5	51·3	60	59·0	
	20	0	0	29·2	51·5	60	58·2	60
	20	30	0	28·4	52·5	60	58·5	60
	22	0	0	24·9	55·6	60	59·6	60
	23	0	0	24·0	57·0	60	55·6	60

The Mean Positions at the same hours during the Month are given in page 66.

August 23 and 24, 1841.

Cape of Good Hope { Decl. 1 Scale Division = 0′·75; H. F. k = ·000180; q = ·0003; V. F. k = ·00004; q =

Positions at the usual hours of observation, August 23 and 24.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
23	0	0	0	52·4	61·1	56	55·5	57
	2	0	0	54·0	57·0	57	61·1	57
	4	0	0	53·0	56·5	57	65·1	57
	6	0	0	52·0	54·9	58	69·7	58
	8	0	0	49·5	52·1	57	87·1	58
	10	0	0	49·8	50·1	57	81·0	57
	12	0	0	51·6	55·0	56	61·1	57
	14	0	0	55·5	60·1	57	27·8	58
	16	0	0	54·2	57·5	57	60·0	57
	18	0	0	57·2	56·0	57	57·3	57
	20	0	0	58·0	55·7	57	73·4	57
	22	0	0	47·9	63·2	57	69·0	57
24	0	0	0	49·1	57·0	57	62·9	57
	2	0	0	50·4	53·3	56	68·6	57
	4	0	0	53·0	55·0	56	64·0	57
	6	0	0	52·2	57·5	56	66·7	57
	8	0	0	52·7	57·1	56	66·7	56
	10	0	0	53·2	59·0	55	65·0	56
	12	0	0	53·8	59·4	55	67·4	55
	14	0	0	55·6	61·8	55	59·8	55
	16	0	0	54·3	61·8	54	67·4	55
	18	0	0	54·6	63·7	54	61·5	55
	20	0	0	52·1	68·6	53	70·9	54
	22	0	0	47·5	70·0	54	69·7	54

The Mean Positions at the same hours during the Month are given in page 69.

Van Diemen Island { Decl. 1 Scale Division = 0′·71; H. F. k = ·0003; q =; V. F. k = ; q =

Extra observations.

The V. F. was observed at 2^m. 30^s. before, and the H. F. 2^m. 30^s. after the times specified.

23	8	15	0	69·7				
		20	0	69·0	35·7	52	54·3	51
		25	0	69·1				
		30	0	67·0	35·1		53·6	
		35	0	64·0				
		40	0	63·0	36·5		51·2	
		45	0	63·6				
		50	0	63·3	36·9		50·9	
	11	15	0	68·1				
		20	0	66·4	36·1	52	52·7	52
		25	0	65·5				
		30	0	64·7	36·1		48·6	
		35	0[a]	63·7				
		40	0				49·2	

Positions at the usual hours of observation, August 23 and 24.

23	0	0	0	59·4	32·1	55	54·2	54
	1	0	0	56·4	32·5		53·0	
	2	0	0	59·2	33·9	54	53·4	53
	3	0	0	60·9	33·9		49·2	

[a] The Decl. magnet had a considerable vertical motion.

August 23 and 24, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
23	4	0	0	60·3	34·6	54	51·0	53
	5	0	0	60·5	35·1		52·2	
	6	0	0	60·2	36·8	52	52·9	51
	7	0	0	60·2	36·2		52·9	
	8	0	0	71·2	36·8	52	56·1	51
	9	0	0	64·0	36·9		48·8	
	10	0	0	64·5	37·7	51	49·7	51
	11	0	0	70·1	33·0		59·7	
	12	0	0	62·7	34·3	54	44·8	53
	13	0	0	62·0	33·6		44·9	
	14	0	0	64·1	28·9	57	49·9	56
	15	0	0	68·0	30·0		47·2	
	16	0	0	66·2	29·7	57	47·7	57
	17	0	0	69·0	30·7		49·5	
	18	0	0	69·1	28·7	59	52·3	57
	19	0	0	68·8	29·4		52·7	
	20	0	0	60·0	27·9	56	55·6	55
	21	0	0	66·0	31·0		54·5	
	22	0	0	64·1	33·4	55	51·3	54
	23	0	0	56·6	37·5		44·3	
24	0	0	0	60·3	32·2	53	58·3	53
	1	0	0	58·8	33·0		57·0	
	2	0	0	64·8	37·0	54	54·0	52
	3	0	0	61·5	35·3		53·0	
	4	0	0	62·0	35·1	51	57·8	50
	6	0	0	62·9	37·5	49	58·9	49
	7	0	0	63·2	37·3		59·0	
	8	0	0	63·9	38·0	48	59·1	48
	9	0	0	62·8	38·7		58·9	
	10	0	0	62·1	38·8	48	58·5	48
	11	0	0	60·6	39·2		56·5	
	12	0	0	59·9	39·0	49	54·5	49
	13	0	0	59·7	37·0		54·8	
	14	0	0	61·3	35·1	52	53·4	52
	15	0	0	63·0	33·5		53·1	
	16	0	0	65·5	33·5	54	54·0	54
	17	0	0	68·0	34·2		54·1	
	18	0	0	68·4	35·4	55	53·2	54
	19	0	0	67·0	36·6		52·1	
	20	0	0	64·5	35·7	55	51·6	54
	21	0	0	63·3	36·9		52·4	
	22	0	0	62·1	36·8	53	52·8	52
	23	0	0	63·0	37·3		53·2	

The Mean Positions at the same hours during the Month are given in page 66.

August 26 and 27, 1841.

Toronto { Decl. 1 Scale Division = 0′·72; H. F. k = ·000076; q = ·0002; V. F. k = ·000093; q = ·00018

Extra observations.

The V. F. was observed at 1^m. 30^s. before, and the H. F. 2^m. after the times specified.

27	1	25	0	136·2	391·2	66	52·1	66
		30	0	136·1	393·6		48·2	
		35	0	137·0	394·2		48·1	
		40	0	136·6	395·5		52·3	
		45	0	133·1			45·9	
	2	40	0	133·0	399·9	66	49·4	66
		45	0	134·1	400·6		50·3	

August 26 and 27, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
27	2	50	0	134·1	401·4		49·6	
		55	0	136·0	403·2		50·8	
	3	0	0	135·2	402·4	66	51·2	66
		5	0	134·9	399·7		51·2	
		10	0	134·9	397·9		51·2	
		15	0	136·0	396·1		51·5	
		20	0	136·1	393·7		51·5	
		25	0	136·7	392·2		51·4	
		30	0	137·1	391·4		52·1	
		35	0	137·6	390·2		52·4	
		40	0	138·0	388·5		53·0	
		45	0	137·7	390·8		56·7	
		50	0	136·5	389·0		51·6	
		55	0	136·1	387·0		55·0	
	4	5	0	135·7	385·8	67	52·5	66
		10	0	135·7	390·2		54·5	
		15	0	133·8	385·1		58·2	
		20	0	134·4	384·5		53·0	
		25	0		383·7		52·5	
		30	0	133·1	381·7		56·1	
		35	0	133·0	380·5		56·6	
		40	0	132·0	379·1		54·4	
		45	0	131·4	376·5		51·8	
		50	0	132·0	374·4		51·8	
		55	0	132·8	376·6		52·8	

Positions at the usual hours of observation, August 26 and 27.

26	0	0	0	133·9	393·2	66	52·0	66
	2	0	0	144·9	404·1	68	49·5	67
	4	0	0	136·2	376·7	69	49·3	68
	6	0	0	120·9	364·8	69	50·6	68
	8	0	0	124·5	397·7	70	57·5	69
	10	0	0	125·0	398·5	70	60·7	69
	12	0	0	117·7	380·5	69	67·6	69
	14	0	0	146·8	351·0	68	63·5	68
	16	0	0	162·0	340·0	67	40·3	67
	18	0	0	145·0	338·3	67	47·9	67
	20	0	0	154·8	367·9	66	44·3	67
	22	0	0	115·0	390·2	66	48·1	66
27	0	0	0	148·6	403·7	66	61·5	66
	2	0	0	130·6	383·8	66	44·5	66
	4	0	0	135·7	385·5	67	56·4	66
	6	0	0	128·2	382·0	68	55·3	67
	8	0	0	130·5	398·1	69	54·7	68
	10	0	0	133·8	412·0	69	51·4	69
	12	0	0	135·0	400·2	70	57·4	69
	14	0	0	138·1	402·6	70	52·6	71
	16	0	0	134·9	390·1	69	52·5	70
	18	0	0	131·4	377·5	69	34·7	70
	20	0	0	137·0	385·9	69	43·6	70
	22	0	0	139·8	390·1	68	49·3	70

The Mean Positions at the same hours during the Month are given in page 64.

St. Helena { Decl. 1 Scale Division = 0′·71
H. F. k = ·00018; q = ·00025
V. F. k = ·00017; q =

Extra observations.

The V. F. was observed at 2^m. 30^s. before, and the H. F. 2^m. 20^s. after the times specified.

26	10	15	0	24·0		62		61
		20	0	24·0	33·4		52·6	

August 26 and 27, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
26	10	25	0	23·9				
		30	0	23·5	33·9		51·4	
		35	0	23·4				
		40	0	23·4	34·0		51·2	
		45	0	23·5				
		50	0	23·8	33·9		51·5	
		55	0	23·7				
	11	0	0	23·6	33·9	62	51·4	61
		5	0	23·6				
		10	0	23·5	33·5		51·3	
		15	0	23·6				
		20	0	23·8	34·0		51·3	
		25	0	24·0				
		30	0	24·0	33·8		Vibr^n.	
		35	0	24·0				
		40	0	24·0	33·5		51·4	
		45	0	23·8				
		50	0	23·4	33·1		51·2	
		55	0	23·2				
	12	0	0	23·1	33·1	62	51·0	61
		5	0	23·1				
		10	0	23·1	33·2		51·1	
		15	0	23·1				
		20	0	23·1	33·0		51·2	
		25	0	22·9				
		30	0	22·8	32·9		51·1	
		35	0	22·8				
		40	0	22·7	33·0		51·2	
		45	0	22·6				
		50	0	22·6	33·5		51·2	
		55	0	22·7				
	13	0	0	22·6	34·1	62	51·1	61
		5	0	22·4				
		10	0	22·3	34·0		51·2	
		15	0	22·4				
		20	0		34·0			
		25	0	22·2				
		30	0	22·5	34·5		51·7	
		35	0	22·1				
		40	0	22·1	35·0		51·5	
		45	0	22·2				
		50	0	22·3	35·5		51·6	
		55	0	22·5				
	14	0	0	22·5	36·5	61	51·6	61
		5	0	22·5				
		10	0	22·1	37·0		51·6	
		15	0	22·1				
		20	0	22·0	37·0		51·6	
		25	0	22·0				
		30	0	22·0	37·1		51·6	
		35	0	22·0				
		40	0	22·1	37·7		51·6	
		45	0	22·5				
		50	0	22·8	38·1		51·8	
		55	0	22·6				
	15	0	0	22·7	39·0	61	51·8	61
		5	0	22·2				
		10	0	22·1	39·0		51·8	
		15	0	22·2				
		20	0	22·2	39·0		51·8	
		25	0	22·2				
		30	0	22·5	39·9		51·8	
		35	0	22·5				
		40	0	22·5	41·0		52·0	
		45	0	22·3				
		50	0	22·3	42·9		52·0	
		55	0	22·5				

August 26 and 27, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
26	16	0	0	22·7	45·8	61	52·0	61
		5	0	23·0				
		10	0	23·2	49·0		52·4	
		15	0	23·6				
		20	0	23·1	49·2		52·4	
		30	0	23·9	48·9			
		35	0	23·6				
		40	0	23·6	47·9		52·3	
		45	0	23·2				
		50	0	23·1	46·9		52·2	
		55	0	23·0				
	17	0	0	22·5	46·0	61	52·1	
		5	0	22·4				
		10	0	22·1	45·1		51·8	
		15	0	22·0				
		20	0	22·0	45·0		51·7	
		25	0	22·0				
		30	0	22·1	45·0		51·9	
		35	0	22·8				
		40	0	22·9	45·0		52·0	
		45	0	23·2				
		50	0	23·1	45·6		52·1	
		55	0	23·1				
	18	0	0	23·3	45·9	61	51·9	61
		5	0	23·9				
		10	0	24·1	45·1		52·9	
		15	0	24·1				
		20	0	24·1	44·9		52·5	
		25	0	24·2				
		30	0	24·1	44·9		52·2	
		35	0	24·1				
		40	0	24·1	44·2		52·2	
		45	0	24·1				
		50	0	24·1	44·1		52·1	
		55	0	24·1				
	19	0	0	24·1	44·0	61	52·1	61
		5	0	24·3				
		10	0	24·9	43·8		52·8	
		15	0	25·0				
		20	0	25·1	44·1		53·1	
		25	0	25·9				
		30	0	26·0	44·7		52·6	
		35	0	26·0				
		40	0	26·1	45·1		52 7	
		45	0	26·1				
		50	0	26·1	46·1		52·4	
		55	0	26·7				
	20	0	0	26·9	47·1	61	52·0	61
		5	0	26·8				
		10	0	26·1	48·0		52·0	
		15	0	26·1				
		30	0	26·0	48·1		52·0	
		25	0	26·0				
		30	0	26·0	48·5		52·1	
		35	0	26·0				
		40	0	25·8	48·3		52·1	
		45	0	25·4				
		50	0	25·1	48·5		52·1	
		55	0	25·0				

Positions at the usual hours of observation August 26 and 27.

26	0	0		24·7	57·0	61	53·9	60
	2	0		23·9	51·3	62	52·8	61
	3	0		25·2	48·0	62	51·7	61

August 26 and 27, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
26	4	0	0	25·9	46·8	62	51·3	62
	5	0	0	24·3	43·2	62	50·9	62
	6	0	0	23·2	40·2	62	51·1	62
	8	0	0	23·1	40·0	61	50·3	61
	10	0	0	24·3	33·6	62	51·9	61
	11	0	0	23·6	33·9	62	51·4	61
	12	0	0	23·1	33·1	62	51·0	61
	13	0	0	22·6	34·1	62	51·1	61
	14	0	0	22·5	36·5	61	51·6	61
	15	0	0	22·7	39·0	61	51·8	61
	16	0	0	22·7	45·8	61	52·0	61
	18	0	0	23·3	45·9	61	51·9	61
	19	30	0	26·0	44·7	61	52·1	61
	20	0	0	26·9	47·1	61	52·0	61
	20	30	0	26·0	48·5	61	52·2	60
	22	0	0	22·1	48·1	61	52·9	60
	23	0	0	23·6	55·1	61	52·8	60
27	0	0	0	25·0	54·0	61	53·5	61
	2	0	0	23·7	51·0	62	52·5	62
	3	0	0	22·5	48·9	63	51·4	62
	4	0	0	23·6	47·1	63	49·9	63
	5	0	0	25·0	49·9	66	49·3	63
	6	0	0	24·9	46·9	64	48·0	63
	8	0	0	24·9	45·0	62	48·5	62
	10	0	0	24·4	42·1	62	48·8	62
	11	0	0	23·9	41·6	62	49·0	62
	12	0	0	24·9	42·9	62	49·3	62
	13	0	0	26·1	51·8	61	49·9	61
	14	0	0	26·9	52·4	62	50·3	61
	15	0	0	26·0	51·0	62	50·5	61
	16	0	0	25·1	49·1	62	50·7	61
	18	0	0	25·5	48·0	61	51·3	61
	19	30	0	30·0	51·2	61	51·3	61
	20	0	0	29·3	49·0	61	51·3	61
	20	30	0	27·5	48·4	61	51·8	60
	22	0	0	24·4	49·8	61	52·3	60
	23	0	0	22·9	48·0	61	52·0	61

The Mean Positions at the same hours are given in page 66.

Cape of Good Hope { Decl. 1 Scale Division = 0′·75 ; H. F. k = ·000180 ; q = ·0003 ; V. F. k = ·000037 ; q =

Positions at the usual hours of observation, August 26 and 27.

26	0	0	0	51·8	38·2	55	61·7	56
	2	0	0	52·1	43·0	56	63·7	56
	4	0	0	53·4	44·4	57	67·4	57
	6	0	0	51·7	51·0	57	84·8	57
	8	0	0	51·4	53·7	57	85·5	57
	10	0	0	51·1	55·9	57	89·3	57
	12	0	0	48·0	51·8	56	88·4	57
	14	0	0	48·0	48·2	56	75·4	56
	16	0	0	52·0	41·8	55	50·2	57
	18	0	0	54·0	42·0	56	52·2	56
	20	0	0	53·2	42·0	56	59·0	56
	22	0	0	49·0	43·0	56	72·2	57
27	0	0	0	53·1	40·9	57	29·2	57
	2	0	0	55·0	51·9	58	60·2	58
	4	0	0	53·2	46·2	58	60·6	58
	6	0	0	53·6	45·8	59	60·0	59
	8	0	0	53·0	46·5	58	63·9	59
	10	0	0	52·1	49·0	59	70·5	59
	12	0	0	51·6	47·9	59	62·9	59
	14	0	0	55·7	38·8	59	76·2	59

August 26 and 27, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
27	16	0	0	53·0	41·6	59	54·4	59
	18	0	0	56·1	46·0	59	53·6	59
	20	0	0	55·0	38·8	58	59·9	58
	22	0	0	51·2	37·0	58	66·8	58

The Mean Positions at the same hours during the Month are given in page 69.

Van Diemen Island { Decl. 1 Scale Division = 0′·71 ; H. F. k = 0003 ; q = ; V. F. k = ; q =

Extra observations.

The V. F. was observed at 2^m. 30^s. before, and the H. F. 2^m. 30^s. after the times specified.

27	2	15	0	46·5	32·5	54		53
		22	30	46·6	32·2		46·4	
		30	0	48·7	32·5		46·4	
		37	30	50·5	32·6		46·5	
		45	0	51·2	33·1		46·2	
	3	15	0	57·9		54		53
		20	0	58·0	31·8		53·2	
		25	0	57·3				
		30	0	58·1	32·2		52·9	
		35	0	60·4				
		40	0	61·2			53·2	

Positions at the usual hours of observation, August 26 and 27.

26	0	0	0	57·6	35·7	51	55·7	50
	1	0	0	59·3	33·8		56·9	
	2	0	0	58·6	33·9	51	58·8	51
	3	0	0	58·4	34·8		52·6	
	4	0	0	58·6	35·4	51	52·5	51
	5	0	0	56·6	36·3		52·8	
	6	0	0	54·1	37·1	49	53·0	49
	7	0	0	62·1	36·5		59·5	
	8	0	0	59·4	37·1	48	54·5	48
	9	0	0	62·6	38·0		54·8	
	10	0	0	63·7	40·4	47	52·4	47
	11	0	0	62·3	36·4		55·6	
	12	0	0	63·4	34·5	49	55·7	49
	13	0	0	63·6	33·5		52·0	
	14	0	0	65·4	32·0	53	50·7	53
	15	0	0	66·6	32·6		49·7	
	16	0	0	69·1	27·9	57	52·9	56
	17	0	0	69·4	28·8		55·3	
	18	0	0	70·6	29·1	58	52·9	56
	19	0	0	70·4	29·1		54·6	
	20	0	0	73·0	28·8	58	58·1	56
	21	0	0	68·2	30·3		55·4	
	22	0	0	63·1	32·6	57	51·0	55
	23	0	0	63·6	34·0		51·3	
27	0	0	0	61·4	31·5	55	54·4	55
	1	0	0	60·0	31·4		56·3	
	2	0	0	49·2	32·2	54	52·4	53
	3	0	0	57·7	32·6		53·3	
	4	0	0	58·0	32·8	54	51·2	54
	5	0	0	60·6	36·7		52·5	
	6	0	0	59·8	35·5	51	56·2	52
	7	0	0	61·3	35·8		59·3	
	8	0	0	61·9	36·6	49	59·9	48
	9	0	0	61·5	37·9		60·3	
	10	0	0	60·1	37·0	48	56·0	48
	11	0	0	67·1	37·3		57·7	

August 26 and 27, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc. Div^{ns}.	Ther. °
27	12	0	0	60·9	38·0	48	51·3	50
	13	0	0	62·5	34·9		55·1	
	14	0	0	65·5	37·2	51	47·4	52
	15	0	0	67·4	37·5		46·1	
	16	0	0	69·1	37·0	54	48·5	53
	17	0	0	70·6	36·0		54·3	
	18	0	0	72·0	33·9	53	61·6	53
	19	0	0	68·2	35·7		57·4	
	20	0	0	68·6	34·2	53	56·2	53
	21	0	0	68·4	34·0		57·3	
	22	0	5	66·6	36·0	52	54·2	52
	23	0	0	53·7	39·1		46·9	

The Mean Positions at the same hours during the Month are given in page 66.

Antarctic Expedition at the Bay of Islands, New Zealand

Decl. 1 Scale Division = 0′·73
H. F. k = ·00018 ; q =
V. F. k = ; q =

Positions at the usual hours of observation, August 26 and 27.

26	0	0	0	36·4	89·1	52	58·9	55
	1	0	0	37·9	90·3		55·9	
	2	0	0	37·8	85·9	52	55·9	55
	3	0	0	38·5	85·7		54·9	
	4	0	0	39·9	85·6	52	57·4	55
	5	0	0	43·0	92·5		57·9	
	6	0	0	39·7	92·9	51	58·8	55
	7	0	0	42·5	91·2		57·1	
	8	0	0	41·4	93·3	50	56·6	56
	9	0	0	40·7	92·7		57·3	
	10	0	0	40·4	91·0	53	56·7	57
	11	0	0	38·8	83·6		54·7	
	12	0	0	39·3	80·0	56	53·7	60
	13	0	0	40·9	76·3		53·5	
	14	0	0	42·5	72·1	59	51·7	62
	15	0	0	44·2	71·3		53·3	
	16	0	0	46·7	64·5	63	52·2	68
	17	0	0	43·5	62·5		48·1	
	18	0	0	44·9	61·7	65	51·0	63
	19	0	0	44·2	62·7		52·9	
	20	0	0	45·1	63·1	61	54·3	62
	21	0	0	40·4	70·4		58·9	
	22	0	0	37·3	79·6	58	58·8	57
	23	0	0	39·8	79·9		58·2	
27	0	0	0	38·9	79·1	57	57·1	55
	1	0	0	37·7	80·0		57·8	
	2	0	0	33·9	86·4	55	59·6	55
	3	0	0	36·9	83·5		56·3	
	4	0	0	38·4	83·3	53	57·8	54
	5	0	0	38·9	90·4		59·3	
	6	0	0	39·5	89·8	51	58·9	53
	7	0	0	40·1	91·2		59·4	
	8	0	0	35·6	93·6	50	59·4	56
	9	0	0	37·5	90·1		58·3	
	10	0	0	37·9	93·2	56	54·9	64
	11	0	0	38·5	87·2		51·8	
	12	0	0	38·3	81·4	62	51·0	74
	13	0	0	39·9	69·6		45·7	
	14	0	0	42·3	68·4	71	46·7	77
	15	0	0	43·6	63·7		45·7	

August 26 and 27, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
27	16	0	0	44·0	58·8	75	45·9	77
	17	0	0	44·1	53·5		46·4	
	18	0	0	42·2	52·3	75	45·7	77
	19	0	0	41·9	56·5		48·8	
	20	0	0	42·4	58·8	69	49·7	71
	21	0	0	42·9	61·5		49·4	
	22	0	0	41·6	66·1	63	53·1	68
	23	0	0	37·1	75·6		56·6	
Mean Positions at the usual hours of observation, during the Month of September.								
	0	0	0	42·2	78·8	59	58·1	61
	1	0	0	42·8	81·0		58·1	
	2	0	0	42·6	82·1	58	57·8	59
	3	0	0	42·9	82·8		56 8	
	4	0	0	43·7	83·6	57	57·9	60
	5	0	0	43·8	84·1		58·0	
	6	0	0	43·8	84·8	56	58·3	58
	7	0	0	43·7	85·9		58·7	
	8	0	0	42·8	87·4		59·0	58
	9	0	0	41·3	87·3		58·7	
	10	0	0	39·9	84·4	58	57·6	59
	11	0	0	39·7	80·1		55·8	
	12	0	0	40·8	75·7	63	53·5	63
	13	0	0	43·2	71·7		52·1	
	14	0	0	45·2	69·7	66	52·1	67
	15	0	0	46·4	68·5		52·2	
	16	0	0	46·9	68·6	67	52·7	68
	17	0	0	46·2	68·4		53·1	
	18	0	0	45·4	68·8	66	53·9	68
	19	0	0	44·8	70·1		55·1	
	20	0	0	44·2	72·5	63	56·3	65
	21	0	0	43·6	74·0		56·1	
	22	0	0	43·0	76·1	61	57·8	63
	23	0	0	42·2	77·5		57·9	

August 31 and September 1, 1841.

Toronto [a] { Decl. 1 Scale Division = 0′·72; H. F. k = ·000076; q = ·0002; V. F. k = ·000093; q = ·00018

Extra observations.

The V. F. was observed at 1^m. 30^s. before, and the H. F. 2^m. after the times specified.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
31	12	15	0	151·8	379·2	73	102·1	72
		20	0	149·9	379·0		101·8	
		25	0	146·2	378·2		101·8	
		30	0	145·6	380·6		102·1	
		35	0	144·5	375·1		102·1	
		40	0	144·2	373·3		102·2	
		45	0	142·2	371·4		102·1	
		50	0	140·1	362·7		101·7	
		55	0	141·1	361·8		101·6	
	13	0	0	141·8	366·2	74	101·0	73
		5	0	142·0	366·9		101·0	
		10	0	141·9	366·4		100·2	
Positions at the usual hours of observation, August 31 and September 1.								
31	0	0	0	155·1	395·5	68	100·0	68
	2	0	0	153·7	383·6	69	99·2	69
	4	0	0	141·1	366·0	69	100·5	69
	6	0	0	132·6	374·0	70	100·3	69
	8	0	0	134·2	400·8	71	100·5	70
	10	0	0	140·9	404·6	73	98·4	71
	12	0	0	163·4	376·5	73	96·3	72
	14	0	0	150·8	362·7	73	99·1	72
	16	0	0	148·1	389·2	71	90·5	71
	18	0	0	147·3	356·2	71	85·9	71
	20	0	0	148·4	359·8	70	86·0	70
	22	0	0	149·8	365·7	69	85·1	69

August 31 and September 1, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
1	0	0	0	157·4	392·2	68	99·6	68
	2	0	0	157·8	368·4	69	97·4	68
	4	0	0	139·1	342·1	70	96·0	69
	6	0	0	133·0	372·0	71	96·7	70
	8	0	0	133·0	390·8	72	99·9	71
	10	0	0	142·4	389·7	73	91·9	72
	12	0	0	143·4	374·9	74	102·4	73
	14	0	0	142·4	382·1	72	95·3	72
	16	0	0	145·1	379·4	72	98·1	72
	18	0	0	142·9	381·7	72	92·5	72
	20	0	0	144·0	389·1	71	95·0	71
	22	0	0	144·1	385·9	71	95·0	71
Mean Positions at the same hours during the Month of September. [b]								
	0	0	0	142·1	394·5	66	98·9	66
	2	0	0	142·9	386·4	66	98·2	66
	4	0	0	136·5	368·0	67	98·0	66
	6	0	0	130·7	381·6	68	97·7	67
	8	0	0	129·3	392·7	69	98·4	67
	10	0	0	134·0	396·1	70	95·9	68
	12	0	0	136·9	396·9	69	96·8	68
	14	0	0	139·6	393·3	69	94·8	68
	16	0	0	138·4	388·8	68	95·5	67
	18	0	0	140·9	390·7	68	94·2	68
	20	0	0	140·1	391·2	67	95·2	67
	22	0	0	140·4	390·9	66	95·5	68

St. Helena { Decl. 1 Scale Division = 0′·71; H. F. k = ·00018; q = ·00025; V. F. k = ·00017; q =

Positions at the usual hours of observation, August 31 and September 1.

31	0	0	0	23·2	59·2	60	53·9	61
	2	0	0	21·9	56·5	62	53·5	62
	3	0	0	22·6	54·8	63	52·6	62

[a] Toronto, September, 1841.—*Times of observation at which the Magnets were disturbed, but the mean readings were not materially changed.*

d.	h.	
2	16	Decl. slight vibrations.
3	4	Decl. moderate vibrations, with shocks.
	6	Decl. and H. F. moderate vibrations, with shocks.
6	0	V. F. vibrating much.
	8	V. F. vibrating much.
7	12	V. F. vibrating much.
	20	H. F. slight vibrations.
	22	H. F. slight vibrations.
8	0	V. F. very considerable vibrations.
		V. F. very considerable vibrations.
9	22	H. F. moderate shocks.
11	2	Decl. slight vibrations.
	4	Decl. slight vibrations.
	16	H. F. moderate shocks.
12	22	Decl. slight vibrations; H. F. vibrating much, with shocks.
13	0	Decl. slight vibrations; H. F. moderate vibrations, with shocks.
	2	H. F. vibrating much, with shocks.
	6	H. F. moderate vibrations, with shocks.
	20	Decl. and H. F. vibrating much, with shocks.
	22	Decl. and H. F. vibrating much, with shocks.
14	0	Decl. much disturbed by shocks; H. F. vibrating very much.
	2	Decl. slight shocks; H. F. vibrating much, with shocks.
	4	Decl. and H. F. moderate vibrations, with shocks.
	10	H. F. slight vibrations.
	18	Decl. much disturbed by shocks; H. F. moderately.
	20	Decl. much disturbed by shocks, vibrating slightly.
15	0	H. F. vibrating much.
16	20	H. F. moderate vibrations, with shocks.
17	22	Decl. vibrating considerably.
18	0	Decl. vibrating much; H. F. slight vibrations, with shocks.
	4	H. F. and V. F. vibrating much.
	6	Decl. and H. F. disturbed moderately by shocks.
	8	H. F. much disturbed by shocks and vibrations.
18	10	V. F. vibrating slightly.
	12	Decl. moderate vibrations; H. F. slight shocks.
21	0	V. F. vibrating very considerably.
	2	Decl. vibrating slightly; H. F. moderately disturbed by shocks.
	10	Decl. moderately disturbed by shocks.
22	8	H. F. vibrating moderately, with shocks.
23	22	Decl. and H. F. vibrating slightly.
24	0	H. F. moderately disturbed by shocks.
	16	H. F. vibrating considerably.
	18	H. F. moderate shocks and vibrations.
	22	H. F. vibrating much, with shocks.
26	18	H. F. vibrating much.
	20	H. F. vibrating much.
27	0	H. F. vibrating much; Decl. moderate vibrations and shocks.
	2	H. F. vibrating much; Decl. slight shocks.
	12	H. F. slight vibrations.
28	0	Decl. much disturbed by shocks; H. F. vibrating much, with shocks.
	2	Decl. slight shocks; H. F. moderate vibrations, with shocks.
29	6	H. F. vibrating moderately.
30	2	H. F. vibrating much.
	8	H. F. vibrating considerably.

[b] The mean positions of the V. F. magnet are from the 1st to the 8th September, inclusive.

August 31 and September 1, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
31.	4	0	0	25·0	52·0	63	53·0	62
	5	0	0	26·6	51·0	63	53·3	62
	6	0	0	26·2	49·3	63	51·5	62
	8	0	0	26·2	49·1	62	51·9	62
	10	0	0	26·1	48·7	62	51·7	61
	11	0	0	26·2	45·1	62	51·8	61
	12	0	0	27·0	50·0	61	51·9	61
	13	0	0	25·9	47·8	61	52·2	61
	14	0	0	25·9	48·2	61	[a]	
	15	0	0	26·3	50·0	61		
	16	0	0	25·6	49·9	61		
	18	0	0	26·0	48·9	60		
	19	30	0	27·3	46·0	60		
	20	0	0	27·6	45·0	60		
	20	30	0	28·0	48·0	60		
	22	0	0	24·0	50·0	60		
	23	0	0	21·1	49·6	60		
1	0	0	0	15·3	50·0	61		
	2	0	0	19·0	49·7	62		
	3	0	0	19·0	45·5	61		
	4	0	0	19·6	42·0	62		
	5	0	0	20·0	43·2	62		
	6	0	0	22·0	44·6	62		
	8	0	0	23·7	44·0	62		
	10	0	0	22·1	43·8	61		
	11	0	0	22·4	41·8	61		
	12	0	0	22·9	43·1	61		
	13	0	0	22·4	45·0	61		
	14	0	0	20·5	[b]			
	15	0	0	21·4			53·0	61
	16	0	0	22·2			53·8	60
	18	0	0	23·5			54·2	60
	19	30	0	27·0			54·4	60
	20	0	0	26·9			55·7	60
	20	30	0	25·9			57·1	60
	22	0	0	20·8			58·0	60
	23	0	0	18·8			58·0	60

The Mean Positions at the same hours during the Month of August are given in page 66.

Cape of Good Hope

Decl. 1 Scale Division = 0′·75
H. F. k = ·00018; q = ·0003
V. F. k = ·00004; q =

Positions at the usual hours of observation, August 31 and September 1.

31	0	0	0	51·9	63·8	56	109·1
	2	0	0	54·0	61·3	56	99·2
	4	0	0	53·3	58·1	57	105·3
	6	0	0	52·9	59·0	57	111·9
	8	0	0	53·9	59·2	57	109·6
	10	0	0	53·5	59·4	57	112·9
	12	0	0	55·5	[c]		[c]
	14	0	0	53·0			
	16	0	0	52·7			
	18	0	0	56·0			
	20	0	0	53·8			
	22	0	0	49·8			
1	0	0	0	50·6			
	2	0	0	52·4			

August 31 and September 1, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
1	4	0	0	50·7				
	6	0	0	51·6				
	8	0	0	52·0				
	10	0	0	50·6				
	12	0	0	51·8				
	14	0	0	52·9				
	16	0	0	53·7				
	18	0	0	55·4				

The Mean Positions at the usual hours of observation during the Month of August are given in page 69.

Van Diemen Island

Decl. 1 Scale Division = 0′·71
H. F. k = ·0003; q =
V. F. k = ; q =

Extra observations.

The V. F. was observed at 2^m. 30^s. before, and the H. F. 2^m. 30^s. after the times specified.

1	1	10	0	95·6	60·3	56		
		15	0	98·7				
		20	0	100·6	59·2		46·0	55
		25	0	101·3				
		30	0	100·5	57·4		46·0	
		35	0	101·4				
		40	0	100·7	56·9		47·9	
		45	0	101·3				

Positions at the usual hours of observation, August 31 and September 1.

31	0	0	0	113·4	33·7	56	49·9	55
	1	0	0	111·7	34·0		50·9	
	2	0	0	109·7	34·4	55	48·2	54
	3	0	0	112·4	34·6		48·0	
	4	0	0	111·3	35·5	54	51·9	53
	5	0	0	114·1	36·5		53·4	
	6	0	0	114·4	36·7	53	53·8	52
	7	0	0	113·4	37·8		55·0	
	8	0	0	112·8	38·2	52	55·0	50
	9	0	0	112·3	38·6		56·5	
	10	0	0	111·8	39·1	51	57·5	49
	11	0	0		37·0		[d]	
	12	0	0	107·1	33·8	52		
	13	0	0		36·3			
	14	0	0	[d]	34·2	53	53·2	53
	15	0	0		[d]			
	16	0	0					
	17	0	0		55·3			
	18	0	0		55·9			
	19	0	0	115·8	54·5		55·7	
	20	0	0	111·2	53·2	59	49·2	56
	21	0	0	106·5	50·1		58·2	
	22	0	0	105·8	50·3	57	57·4	55
	23	0	0	106·9	51·6		58·4	
1	0	0	0	104·5	55·0	56	53·9	54
	1	0	0	100·0	56·9		50·3	
	2	0	0	97·6	55·5	55	48·0	55
	3	0	0	100·6	57·1		48·4	
	4	0	0	103·2	57·9	53	49·9	52
	5	0	0	105·5	58·4		50·1	

August 31 and September 1, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
1	6	0	0	106·1	58·3	51	52·0	51
	7	0	0	105·8	58·8		52·8	
	8	0	0	107·0	59·5	50	54·9	50
	9	0	0	104·6	60·2		55·5	
	10	0	0	106·0	60·2	49	58·2	49
	11	0	0	111·0	59·4		60·6	
	12	0	0	105·5	59·4	50	53·8	50
	13	0	0	104·4	57·9		51·4	
	14	0	0	104·8	56·5	53	49·9	53
	15	0	0	107·2	54·1		51·0	
	16	0	0	110·5	55·6	56	50·5	55
	17	0	0	110·7	54·8		50·0	
	18	0	0	112·3	55·2	57	50·2	56
	19	0	0	113·1	53·0		48·6	
	20	0	0	113·8	56·5	58	48·6	56
	21	0	0	109·7	56·4		49·2	
	22	0	0	106·2	57·6	57	45·6	55
	23	0	0	107·2	57·1		50·6	

Mean Positions at the same hours during the Month of September.

0	0	0	105·1	57·4	55	51·4	53
1	0	0	105·0	57·6		52·1	
2	0	0	105·0	57·5	53	52·2	53
3	0	0	106·1	59·4		51·1	
4	0	0	106·5	59·8	52	53·2	51
5	0	0	106·6	59·7		53·2	
6	0	0	107·3	60·2	51	55·2	50
7	0	0	108·3	60·4		56·0	
8	0	0	108·4	60·8	48	56·1	49
9	0	0	107·8	60·8		56·5	
10	0	0	106·8	61·4	49	56·3	49
11	0	0	104·9	60·4		55·9	
12	0	0	103·2	59·4	50	54·0	50
13	0	0	104·1	57·7		53·7	
14	0	0	106·6	56·5	52	53·5	52
15	0	0	109·6	55·8		54·0	
16	0	0	112·2	56·3	55	52 4	54
17	0	0	114·0	57·2		51·4	
18	0	0	113·7	56·4	57	51·3	55
19	0	0	112·7	56·1		51·1	
20	0	0	111·3	56·4	58	50·7	55
21	0	0	108·5	56·4		50·9	
22	0	0	106·9	56·8	56	50·3	54
23	0	0	105·7	57·0		51·7	

Antarctic Expedition at the Bay of Islands, New Zealand.

Decl. 1 Scale Division = 0′·73
H. F. k = ·00018; q =
V. F. k = ; q =

Positions at the usual hours of observation, August 31 and September 1.

31	0	0	0	40·4	81·1	54	59·4	55
	1	0	0	41·0	83·5		56·4	
	2	0	0	40·9	85·1	52	57·6	54
	3	0	0	41·7	86·0		54·2	
	4	0	0	42·7	88·7	50	59·5	52
	5	0	0	43·6	90·4		58·9	

[a] V. F. magnet under adjustment.
[b] H. F. magnet under adjustment.
[c] H. F. and V. F. magnets out of adjustment.

[d] The connexion of the series of readings with each of the three magnetometers was broken about 31^d. 12^h., for the purpose of determining the magnetic moments of the bars; the readings, prior to the connexion being broken, are comparable with the mean monthly positions of August; the subsequent ones with those of September.

August 31 and September 1, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
31	6	0	0	42·9	90·0	49	60·9	53
	7	0	0	41·5	94·1		59·7	
	8	0	0	40·0	95·9	47	59·3	52
	9	0	0	38·9	96·2		60·8	
	10	0	0	37·0	93·4	51	60·0	52
	11	0	0	36·9	87·2		57·2	
	12	0	0	38·0	86·2	61	50·9	60
	13	0	0	40·5	72·3		51·8	
	14	0	0	43·5	72·0	62	52·5	62
	15	0	0	44·5	72·1		52·8	
	16	0	0	45·2	71·6	65	53·0	64
	17	0	0	45·8	70·0		52·9	
	18	0	0	45·4	69·1	64	53·5	65
	19	0	0	43·5	67·9		54·1	
	20	0	0	37·9	75·3	62	58·7	62
•	21	0	0	40·0	66·7		55·2	
	22	0	0	39·2	68·9	59	57·1	60
	23	0	0	39·6	69·8		57·9	
1	0	0	0	40·5	77·5	54	60·8	55
	1	0	0	40·6	84·6		59·5	
	2	0	0	40·4	84·2	52	58·4	55
	3	0	0	41·4	86·3		59·7	
	4	0	0	42·3	88·0	51	60·7	56
	5	0	0	43·6	90·6		61·5	
	6	0	0	41·7	89·5	47	61·0	55
	7	0	0	41·9	93·1		62·3	
	8	0	0	40·1	94·3	45	63·2	55
	9	0	0	39·8	95·8		63·4	
	10	0	0	39·5	89·7	51	59·7	56
	11	0	0	40·2	79·5		55·5	
	12	0	0	39·6	74·8	60	54·7	58
	13	0	0	41·1	72·5		54·3	
	14	0	0	44·3	70·3	64	53·3	64
	15	0	0	45·3	67·6		52·5	
	16	0	0	46·1	66·1	68	51·9	66
	17	0	0	45·8	63·8		52·7	
	18	0	0	45·5	66·1	66	54·9	67
	19	0	0	43·9	69·0		58·1	
	20	0	0	44·3	72·2	60	57·7	62
	21	0	0	44·2	74·9		58·1	
	22	0	0	43·3	80·0	56	60·6	56
	23	0	0	42·4	81·7		58·3	

The Mean Positions at the same hours during the Month of September are given in page 74.

September 12, 13, and 14, 1841.

Toronto { Decl. 1 Scale Division = 0′·72
H. F. k = ·000076; q = ·00021
V. F. k = ·000093; q = ·00018

Extra observations.

The V. F. was observed at 1^m. 30^s. before, and the H. F. 2^m. after the times specified.

13	20	25	0[a]	148·8	317·5	65	78·7	65
		30	0	148·5	318·4		75·4	
		35	0	146·5	323·7		78·2	
		40	0	143·2	337·3		80·9	
		45	0	142·3	356·3		81·5	
		50	0	139·5	353·7		84·7	

September 12, 13, and 14, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
13	20	55	0	138·4	368·3		84·3	
	21	0	0	136·6	375·9	64	85·5	66
		5	0	133·6	379·9		84·7	
		10	0	134·7	392·4		84·8	
		15	0	137·7	400·9		85·9	
		20	0	141·8	406·0		85·2	
		25	0	143·2	396·5		85·2	
		30	0	142·8	392·1		84·0	
		35	0	144·9	385·9		84·0	
		40	0	145·5	375·3		83·9	
		45	0	146·8	355·7		82·7	
		50	0	148·3	351·6		79·5	
	22	0	0	133·4	318·2		79·0	
		30	0	139·6	382·5	64	86·8	65
		35	0	140·9	391·1		87·8	
		40	0	142·3	398·7		88·8	
		45	0	142·8	397·0		90·4	
		50	0	145·5	400·9		91·3	
		55	0	144·4	394·9		91·3	

Positions at the usual hours of observation, September 12, 13, and 14.

12	18	0	0[b]	151·9	390·3	68	90·2	68
	20	0	0	145·3	382·0	66	91·3	67
	22	0	0	147·8	388·5	65	91·2	66
13	0	0	0	141·0	407·4	64	89·0	65
	2	0	0	145·9	390·4	66	92·1	66
	4	0	0	135·5	351·6	68	92·6	67
	6	0	0	130·5	375·0	69	103·6	70
	8	0	0	135·1	397·0	69	109·2	69
	10	0	0	136·5	399·4	70	107·1	69
	12	0	0	137·3	390·7	70	104·5	69
	14	0	0	136·5	393·9	69	104·3	68
	16	0	0	140·7	394·5	67	104·1	67
	18	0	0	151·5	360·2	65	104·3	67
	20	0	0	146·8	345·8	65	83·6	65
	22	0	0	133·4	318·2	64	79·0	65
14	0	0	0	143·2	405·6	62	95·3	64
	2	0	0	142·8	395·9	64	103·2	64
	4	0	0	138·6	375·4	66	106·6	65
	6	0	0	127·1	371·6	67	108·3	66
	8	0	0	130·9	399·0	68	107·4	67
	10	0	0	136·4	399·9	68	108·1	67
	12	0	0	138·0	399·5	68	106·1	67
	14	0	0	137·8	396·6	67	106·7	67
	16	0	0	140·2	418·2	66	102·5	66
	18	0	0	137·9	401·1	64	106·6	64
	20	0	0	136·8	403·5	63	109·6	63
	22	0	0	138·5	407·5	62	110·1	62

The Mean Positions at the same hours during the Month are given in page 74.

St. Helena { Decl. 1 Scale Division = 0′·71
H. F. k = ·00018; q = ·00025
V. F. k = ·0002; q =

Positions at the usual hours of observation, September 12, 13, and 14.

12	14	0	0	23·8[c]	157·1	60	50·6	60
	15	0	0	24·0	157·1	60	50·2	60

September 12, 13, and 14, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
12	16	0	0	24·1	157·5	60	50·0	60
	18	0	0	23·9	159·0	60	50·5	59
	19	30	0	30·1	160·0	60	50·2	59
	20	0	0	29·1	159·8	60	50·2	59
	20	30	0	28·0	159·8	61	50·6	59
	22	0	0	26·9	160·2	60	51·2	60
	23	0	0	25·6	163·2	61	50·2	60
13	0	0	0	24·8	159·2	61	50·1	61
	2	0	0	24·1	153·7	62	50·3	61
	3	0	0	24·0	152·0	62	51·1	62
	4	0	0	22·0	149·0	62	51·2	62
	5	0	0	22·9	151·0	62	50·9	62
	6	0	0	24·0	150·0	62	50·7	62
	8	0	0	26·2	152·2	62	50·8	61
	10	0	0	26·2	151·1	61	50·7	61
	11	0	0	26·8	155·4	61	50·7	61
	12	0	0	26·1	153·4	61	50·7	60
	13	0	0	26·0	153·0	61	50·9	60
	14	0	0	25·8	153·1	61	51·1	60
	15	0	0	25·5	153·9	60	51·1	60
	16	0	0	25·9	154·7	60	51·3	60
	18	0	0	26·1	154·9	60	51·2	60
	19	30	0	27·9	155·1	60	51·3	59
	20	0	0	26·2	155·8	60	50·8	59
	20	30	0	25·9	154·0	60	50·2	59
	22	0	0	23·4	150·0	60	49·6	59
	[illegible]		0	22·9	154·2	60	47·8	60
14	0.	0	0	23·0	152·0	60	47·2	61
	2	0	0	22·3	152·1	61	44·3	61
	3	0	0	22·9	152·6	61	44·1	61
	4	0	0	24·2	151·8	62	43·3	61
	5	0	0	24·5	151·2	62	43·3	61
	6	0	0	25·0	148·2	62	43·5	61
	8	0	0	25·8	150·2	61	44·6	61
	10	0	0	25·9	150·9	61	46·6	60
	11	0	0	25·8	151·3	61	46·5	60
	12	0	0	26·0	152·9	61	47·1	60
	13	0	0	26·1	154·9	61	47·6	60
	14	0	0	26·1	154·0	60	48·3	60
	15	0	0	26·0	153·8	60	48·6	60
	16	0	0	26·5	155·1	60	48·8	60
	18	0	0	26·7	154·9	60	49·0	59
	19	30	0	28·5	155·0	60	49·0	59
	20	0	0	27·0	155·0	60	49·1	59
	20	30	0	26·8	155·3	59	49·0	59
	22	0	0	25·0	159·5	60	48·6	59
	23	0	0	25·9	160·0	60	49·1	60

Mean Positions at the same hours during the Month.

0	0	0	23·0	161·9	61	
2	0	0	23·9	159·6	62	
3	0	0	23·5	156·8	62	
4	0	0	23·2	153·9	62	
5	0	0	23·1	152·3	62	
6	0	0	23·3	151·1	62	
8	0	0	24·1	150·0	62	
10	0	0	24·0	151·0	61	
11	0	0	24·2	152·0	61	
12	0	0	24·2	152·6	61	
13	0	0	24·3	153·1	61	
14	0	0	24·2	154·2	61	

[a] d. h. m.
13 20 0 Calm and clear. Auroral light, and a few faint streamers in the North.
21 30 and 22 0 Bank of Auroral light in the North, with faint streamers and pulsations.

[b] Commencing after midnight of Sunday at Toronto.

[c] Commencing after midnight of Sunday at St. Helena.

September 12, 13, and 14, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
	15	0	0	24·2	154·5	61		
	16	0	0	24·3	155·3	61		
	18	0	0	24·8	156·1	60		
	19	30	0	26·6	155·7	60		
	20	0	0	25·7	155·9	60		
	20	30	0	25·0	156·2	60		
	22	0	0	23·4	160·8	60		
	23	0	0	23·0	156·2	60		

Cape of Good Hope { Decl. 1 Scale Division = 0′·75; H. F k = ·00018; q = ·0003; V. F. k = ; q =

Extra observations.

The H. F. was observed at 2^m. 30^s. after the times specified.

13	2	35	0	52·2				
		40	0	52·5	63·2	56		
		45	0	52·4				
		50	0	52·5	61·8			
		55	0	52·2				
	3	0	0	52·5	61·3			
		5	0	52·2				
		10	0	51·5	60·6			
		15	0	51·0				
		20	0	50·2	61·1			
		25	0	50·0				
		30	0	50·0	60·0			
		35	0	47·3				
		40	0	49·8	58·2			
		45	0	50·0				
		50	0	49·8	57·7			
		55	0	49·4				
	4	0	0	49·2	58·9	57		
		5	0	49·1				
		10	0	49·7	60·8			
		15	0	50·0				
		20	0	50·3	60·6			
		25	0	50·5				
		30	0	50·5	59·4			
		35	0	50·3				
		40	0	50·0	59·4			
		45	0	49·0				
		50	0	49·0	62·2			
		55	0	49·3				
	5	0	0	49·2	63·2	57		
		5	0	49·3				
		10	0	49·3	63·8			
		15	0	49·3				
		20	0	49·4	63·4			
		25	0	49·5				
		30	0	49·5	62·8			
		35	0	50·0				
		40	0	49·7	62·8			
		45	0	49·4				
		50	0	49·8	62·6			
		55	0	49·8				
	6	0	0	50·0	62·3	58		
		5	0	50·1				
		10	0	50·0	62·3			
	7	0	0	50·0	61·8	59		
	11	0	0	53·0	70·1	57		

September 12, 13, and 14, 1841.

Positions at the usual hours of observation, September 12, 13, and 14.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
12	12	0	0	52·5[a]	72·2	55		
	14	0	0	50·4	75·5	55		
	16	0	0	50·8	76·7	55		
	18	0	0	52·0	75·7	54		
	20	0	0	53·4	81·0	54		
	22	0	0	53·4	79·0	55		
13	0	0	0	53·2	66·0	56		
	2	0	0	51·0	65·0	56		
	4	0	0	49·2	58·9	58		
	6	0	0	50·0	62·3	58		
	8	0	0	52·2	66·4	58		
	10	0	0	51·2	67·1	58		
	12	0	0	52·0	69·6	57		
	14	0	0	51·8	68·5	56		
	16	0	0	52·6	70·1	56		
	18	0	0	54·5	70·5	56		
	20	0	0	54·4	72·0	56		
	22	0	0	49·0	65·0	57		
14	0	0	0	50·5	63·0	57		
	2	0	0	50·0	60·8	58		
	4	0	0	51·2	63·7	59		
	6	0	0	50·9	62·9	59		
	8	0	0	51·0	65·1	58		
	10	0	0	50·8	66·3	58		
	12	0	0	52·0	68·6	58		
	14	0	0	52·0	69·8	58		
	16	0	0	53·1	69·4	58		
	18	0	0	54·0	70·9	57		
	20	0	0	50·1	74·2	56		
	22	0	0	46·8	74·9	57		

Mean Positions at the same hours during the Month.[b]

	0	0	0	50·4	73·3	57		
	2	0	0	53·3	70·7	58		
	4	0	0	52·1	66·9	58		
	6	0	0	51·8	66·3	58		
	8	0	0	51·7	65·7	58		
	10	0	0	52·0	68·5	58		
	12	0	0	52·5	72·0	57		
	14	0	0	52·7	73·7	57		
	16	0	0	53·1	74·7	57		
	18	0	0	54·3	75·3	57		
	20	0	0	51·2	78·8	56		
	22	0	0	48·8	76·9	56		

Van Diemen Island { Decl. 1 Scale Division = 0′·71; H. F. k = ·0003; q = ; V. F. k = ; q =

Extra observations.

The V. F. was observed at 2^m. 30^s. before, and the H. F. 2^m. 30^s. after the times specified.

12	23	15	0	98·1				
		20	0	95·3	54·4	45	70·2	44
		25	0	93·3				
		30	0	90·9	50·4		70·0	
		35	0	88·0				
		40	0	89·8	53·4		71·7	

September 12, 13, and 14, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
12	23	45	0	92·5				
		50	0	95·8	52·9		71·8	
		55	0	98·9				
13	0	10	0	100·2	55·0	45		
		15	0	100·2				
		20	0	101·7	53·3		72·8	44
		25	0	103·2				
		30	0	103·8	50·4		75·4	
		35	0	103·5				
		40	0	104·3	55·8		74·7	
		45	0	105·6				
		50	0	105·8	56·2		73·4	
	2	15	0	103·7	61·2	45		
		22	30	101·4	61·7			
		30	0	99·5	61·5		62·6	44
		37	30	97·0	62·5		61·6	
		45	0	95·1	62·8		59·2	
	3	10	0	96·9	59·5	45		
		15	0	97·4				
		20	0	98·3	59·4		61·9	44
		25	0	98·3				
		30	0	98·8	64·8		62·5	
		35	0	101·6				
		40	0	105·8	68·2		59·3	
		45	0	106·5				
		50	0	106·6	67·9		54·3	
		55	0	106·5				
	4	5	0	106·4		45		45

Positions at the usual hours of observation, September 12, 13, and 14.

12	3	0	0	107·6	67·1		61·8	
	4	0	0	106·6	66·3	45	64·1	44
	5	0	0	105·7	65·9		63·5	
	6	0	0	104·3	65·8	44	63·5	43
	7	0	0	105·0	64·6		66·5	
	8	0	0	105·2	64·8	43	66·6	41
	9	0	0	106·2	66·1		66·2	
	10	0	0	106·8	66·2	42	65·7	42
	11	0	0	105·1	66·3		64·2	
	12	0	0	103·4	65·7	43	63·8	42
	13	0	0	103·0	63·9		63·6	
	14	0	0	106·4	62·9	43	66·0	43
	15	0	0	111·0	62·0		67·9	
	16	0	0	115·3	64·3	44	65·8	44
	17	0	0	120·8	66·7		66·3	
	18	0	0	119·9	64·8	45	67·0	44
	19	0	0	117·0	63·7		64·6	
	20	0	0	114·6	63·6	45	66·3	44
	21	0	0	110·4	61·8		66·7	
	22	0	0	112·1	60·6	45	73·1	43
	23	0	0	105·4	56·3		77·4	
13	0	0	0	102·4	52·8	45	75·3	44
	1	0	0	106·3	58·0		72·2	
	2	0	0	106·7	61·4	45	66·9	44
	3	0	0	97·3	61·5		57·8	
	4	0	0	106·6	66·0	45	54·2	45
	5	0	0	106·8	63·2		56·1	
	6	0	0	107·1	62·8	43	64·3	43
	7	0	0	107·3	61·8		66·4	
	8	0	0	109·0	62·1	43	67·5	42
	9	0	0	108·2	63·4		65·1	
	10	0	0	105·1	62·0	43	66·0	42

[a] Commencing after midnight of Sunday at the Cape of Good Hope.

[b] The mean positions of the H. F. magnet are from the 13th to 30th September, inclusive.

September 12, 13, and 14, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
13	11	0	0	105·6	61·7		68·4	
	12	0	0	104·1	63·0	43	63·4	43
	13	0	0	103·9	62·8		59·7	
	14	0	0	107·3	63·0	46	58·4	46
	15	0	0	109·9	62·3		58·8	
	16	0	0	111·9	62·6	49	58·0	48
	17	0	0	112·0	59·8		60·9	
	18	0	0	113·7	58·6	50	63·8	49
	19	0	0	106·7	56·3		65·3	
	20	0	0	110·8	53·4	51	69·5	49
	21	0	0	107·5	54·1		67·4	
	22	0	0	97·2	56·5	50	58·0	49
	23	0	0	106·6	54·0		64·9	
14	0	0	0	102·1	56·1	49	61·9	48
	1	0	0	102·1	55·4		64·6	
	2	0	0	105·3	58·0	48	63·4	47
	3	0	0	107·7	59·2		61·3	
	4	0	0	108·8	59·4	49	59·2	47
	5	0	0	107·5	60·8		58·1	
	6	0	0	107·3	61·3	46	62·0	45
	7	0	0	108·9	61·2		64·5	
	8	0	0	108·6	61·6	43	65·4	44
	9	0	0	108·5	61·3		65·5	
	10	0	0	107·1	62·7	44	65·1	44
	11	0	0	105·4	62·7		64·1	
	12	0	0	102·7	61·5	44	62·0	44
	13	0	0	102·6	60·0		61·7	
	14	0	0	105·8	58·7	48	60·6	47
	15	0	0	110·0	58·6		59·8	
	16	0	0	111·2	56·2	51	60·0	50
	17	0	0	112·9	59·0		55·3	
	18	0	0	112·5	58·3	53	55·7	51
	19	0	0	110·5	58·4		54·1	
	20	0	0	109·2	58·5	54	54·0	52
	21	0	0	107·3	58·6		53·7	
	22	0	0	107·2	59·5	53	53·2	51
	23	0	0	106·5	59·4		53·5	

The Mean Positions at the same hours during the Month are given in page 75.

Antarctic Expedition at the Bay of Islands, New Zealand.

Decl. 1 Scale Division = 0′·73
H. F. k = .00018 ; q =
V. F. k = ; q =

Positions at the usual hours of observation, September 12, 13, and 14.

12	1	0	0	41·6	91·7		58·6	
	2	0	0	41·4	94·1	54	57·8	55
	3	0	0	40·4	94·2		57·2	
	4	0	0	41·0	91·8	54	57·4	56
	5	0	0	41·4	92·9		59·4	
	6	0	0	41·0	94·2	53	59·6	56

September 12, 13 and 14, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
12	7	0	0	41·7	93·9		59·8	
	8	0	0	39·7	95·0	53	57·6	58
	9	0	0	38·3	93·1		57·8	
	10	0	0	36·9	90·4	57	57·2	56
	11	0	0	36·7	84·2		54·5	
	12	0	0	38·5	74·8	67	46·9	68
	13	0	0	41·9	68·8		45·8	
	14	0	0	44·0	63·4	75	45·5	76
	15	0	0	46·1	60·2		46·9	
	16	0	0	46·1	61·7	75	48·6	75
	17	0	0	47·4	62·1		51·4	
	18	0	0	45·6	63·1	71	51·9	73
	19	0	0	44·9	65·7		53·1	
	20	0	0	42·2	67·7	67	54·4	69
	21	0	0	42·6	66·2		55·3	
	22	0	0	42·0	65·1	65	56·3	66
	23	0	0	38·9	64·0		55·7	
13	0	0	0	35·2	63·2	64	56·7	65
	1	0	0	39·8	67·3		56·1	
	2	0	0	41·3	71·0	63	56·7	65
	3	0	0	38·7	75·7		56·9	
	4	0	0	42·6	76·9	63	57·5	66
	5	0	0	42·8	73·4		55·8	
	6	0	0	41·6	75·7	61	57·0	61
	7	0	0	40·7	75·6		57·1	
	8	0	0	39·8	76·7	60	56·6	62
	9	0	0	38·7	77·8		57·2	
	10	0	0	37·4	74·2	65	54·7	64
	11	0	0	37·9	69·2		52·5	
	12	0	0	38·7	64·4	71	49·9	72
	13	0	0	40·7	60·7		49·1	
	14	0	0	43·1	57·8	76	48·5	76
	15	0	0	43·5	55·9		48·6	
	16	0	0	44·3	56·1	76	49·3	77
	17	0	0	44·4	55·3		49·3	
	18	0	0	44·3	56·1	71	50·6	72
	19	0	0	39·4	58·8		53·2	
	20	0	0	40·0	55·6	68	52·8	70
	21	0	0	44·0	57·0		55·4	
	22	0	0	39·7	66·8	67	57·9	68
	23	0	0	42·4	59·5		54·4	
14	0	0	0	41·4	61·2	67	55·8	68
	1	0	0	41·3	63·1		56·7	
	2	0	0	44·3	66·5	65	57·2	66
	3	0	0	44·9	67·1		56·0	
	4	0	0	45·2	69·7	64	56·5	65
	5	0	0	44·5	71·1		56·5	
	6	0	0	45·1	71·5	63	56·5	64
	7	0	0	44·7	71·5		57·3	
	8	0	0	44·4	72·4	63	57·5	64
	9	0	0	43·1	71·0		55·9	
	10	0	0	42·4	72·1	63	55·9	64
	11	0	0	41·7	73·2		56·3	
	12	0	0	43·2	72·8	62	56·1	63
	13	0	0	45·2	71·9		54·6	
	14	0	0	45·8	72·4	62	55·1	64

September 12, 13, and 14, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
14	15	0	0	46·8	73·8		55·3	
	16	0	0	46·9	72·6	63	54·6	65
	17	0	0	46·0	74·4		55·5	
	18	0	0	45·3	72·0	65	54·4	66
	19	0	0	44·0	72·5		56·0	
	20	0	0	44·5	74·3	63	56·7	63
	21	0	0	43·8	77·5		57·9	
	22	0	0	43·8	79·1	60	58·5	62
	23	0	0	43·5	80·0		59·2	

The Mean Positions at the same hours during the Month are given in page 74.

September 24, 25, 26, 27, 28, and 29, 1841.

Toronto { Decl. 1 Scale Division = 0′·72
H. F. k = ·000076 ; q = ·0002
V. F. k = ·000093 ; q = ·00018

Regular and extra observations.

The V. F. was observed at 2^m. 30^s. before, and the H. F. 2^m. after the times specified.

24	0	0	0	142·0	418·0		83·6
	2	0	0	141·3	416·1		83·0
	4	0	0	140·9	413·2		81·1
	6	0	0	137·7	412·7		79·7
	8	0	0	126·2	388·2		81·9
	10	0	0	121·6	395·2		89·0
	12	0	0	120·4	408·2		98·6
	14	0	0	125·0	384·9		102·2
	16	0	0	146·3	326·3		79·1
	18	0	0	142·8	360·6		75·3
	20	0	0	156·9	334·6		72·4
	22	0	0*	169·4	306·2	66	37·5	66
		20	0	176·0	297·5		31·1
		25	0	176·0	303·7		32·6
		30	0	171·7	292·6		30·9
		35	0	166·0	280·5		30·9
		40	0	167·9	280·9		31·8
		45	0	168·9	275·4		30·5
		50	0	169·8	265·1		27·4
		55	0	156·4	284·2		41·3
23	0	0	0	156·2	285·1	66	48·5	67
		5	0	129·1	298·9		42·5
		10	0	131·0	290·1		40·8
		15	0	132·9	287·0		40·8
		20	0	135·5	296·1		43·5
		25	0	138·0	316·5		44·1
		30	0	145·9	299·7		40·5
		35	0	144·5	285·1		35·4
		40	0	142·1	282·0		35·4
		45	0	140·2	244·6		22·5
		50	0	149·4	180·5		26·9
		55	0	146·9	215·6		31·5

d. h. m.

* 24 22 0 Very densely clouded.
25 9 0 Clearing.
13 12 Sky almost entirely clear; bright bank of Auroral light moving across the sky like light cirri.
13 17 Several bright streamers and patches of light appearing and disappearing rapidly.
13 32 Light brighter. Clouds rising rapidly.
13 35 Sky overcast. The sky remaining overcast, nothing further was seen of the Aurora until 15^h. 27^m., when several splendid streamers and bright pulsations were observed in the N.E., which continued visible until 15^h. 52^m., growing gradually fainter.

d. h. m.

25 15 52 Partially clouded round N. horizon; low bank of light in the N.
16 37 Clearing slightly in N. Light larger and brighter.
17 37 Densely clouded; nothing of Aurora visible.
17 57 Densely clouded.
18 0 No further observations were made after this hour, being midnight of Saturday at Toronto. In the course of the night the wind, from being light, commenced to blow in heavy squalls, accompanied by violent rain; it continued to blow a gale the whole of Sunday, without rain, but lulled towards evening. At night, the sky being nearly clear for a short time, the Aurora was again seen.

| September 24, 25, 26, 27, 28, and 29, 1841. | | |

SEPTEMBER 25, 26, 27, 28, and 29, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther.	Sc.-Div^{ns}.	Ther.
25	16	55	0	160·0	283·3		54·7	
	17	0	0	172·2		66	54·7	67
		5	0	163·5	335·9		63·1	
		10	0	162·8	351·6		68·0	
		15	0	160·3	348·5		70·3	
		20	0	156·3	355·1		74·4	
		25	0	154·4	355·8		73·2	
		30	0	148·1	355·6		75·3	
		35	0	146·0	346·8		75·1	
		40	0	146·5	342·0		78·2	
		45	0	149·6	342·6		78·4	
		50	0	152·0	353·3		80·1	
		55	0	152·3	358·3			
26	18	0	0[a]	140·8	383·2	60	88·7	61
	20	0	0	135·2	368·5	60	77·0	60
	22	0	0	131·2	364·5	59	55·5	60
27	0	0	0	142·6	410·9	58	83·2	59
	2	0	0	128·0	386·6	58	91·7	59
		15	0	129·6	384·8		90·5	
		20	0	132·0	391·3		90·2	
		25	0	133·0	388·8		90·5	
		30	0	134·0	387·4		90·3	
		35	0	135·7	388·5		91·0	
		40	0	135·2	386·5		91·4	
		45	0	137·8	392·8		92·5	
		50	0	139·8	402·1		92·5	
		55	0	137·9	391·8		93·7	
	3	0	0	138·4	382·9	59	92·8	59
		5	0	140·7	381·5		91·9	
		10	0	140·8	389·0		91·9	
		15	0	139·5	395·0		93·3	
		20	0	135·8	392·2		94·6	
		25	0	138·0	387·7		94·3	
		30	0	139·1	379·8		93·3	
		35	0	139·2	374·0		93·1	
		40	0	137·6	367·7		93·1	
		45	0	136·4	362·6		93·2	
		50	0	134·1	361·4		94·6	
		55	0	134·9	349·4		94·4	
4	0	0	0	133·4	335·3	59	94·5	59
	5	0	0	133·4	325·3		94·0	
	10	0	0	135·4	317·7		94·0	
	15	0	0	138·7	325·2		94·8	
	20	0	0	139·7	336·3		98·9	
	25	0	0	137·3	339·4		102·3	
	30	0	0	135·4	332·7		103·9	
	35	0	0	132·1	337·1		102·7	
	40	0	0	133·8	336·9		102·9	
	45	0	0	134·9	348·5		106·6	
	50	0	0	132·5	346·7		105·6	
	55	0	0	128·9	347·9		104·3	
5	0	0	0	126·6	351·2	59	103·7	59
	5	0	0	123·0	363·9		103·1	
	10	0	0	120·4	365·2		102·2	
	15	0	0	125·8	371·6		101·1	
	20	0	0	121·7	373·8		99·9	
	25	0	0	123·1	378·4		100·5	
	30	0	0	121·9	376·1		99·5	
	35	0	0	120·7	370·7		98·6	
	40	0	0	118·7	372·9		97·2	
	45	0	0	117·5	372·7		96·8	

SEPTEMBER 25, 26, 27, 28, and 29, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther.	Sc.-Div^{ns}.	Ther.
27	5	50	0	119·6	380·1		96·7	
		55	0	119·8	385·4		96·6	
	6	0	0	121·7	391·1	59	97·0	59
		5	0	122·4	394·7		96·6	
		10	0	121·0	398·1		97·2	
		15	0	123·9	399·0		96·9	
		20	0	124·4	403·7		96·8	
		25	0	126·8	409·5		97·1	
		30	0	128·8	413·1		98·6	
		35	0	129·0	408·9		98·6	
		40	0	128·9	412·9		98·6	
		45	0	129·4	412·7		99·3	
		50	0	129·1	408·1		99·6	
		55	0	128·8	415·9		99·6	
	7	0	0	129·1	406·2	60	99·8	59
		5	0	128·9	400·7		99·5	
		10	0	129·0	402·8		99·6	
		15	0	130·0	398·6		101·5	
		20	0	130·0	397·4		102·3	
		25	0	130·1	390·9		102·6	
		30	0	128·9	389·5		102·5	
		35	0	128·7	380·7		103·1	
		40	0	131·1	385·4		101·2	
		45	0	132·8	392·2		102·2	
		50	0	133·4	397·0		101·3	
		55	0	133·1	394·6		101·3	
	8	0	0	134·2	401·9	60	101·2	60
		5	0	135·7	417·9		104·0	
		10	0	137·8	421·6		105·0	
		15	0	137·5	414·5		106·6	
		20	0	138·5	420·5		106·1	
		25	0	138·2	418·5		104·8	
		30	0	137·0	422·1		104·8	
		35	0	136·6	422·8		104·1	
		40	0	136·9	421·9		105·7	
		45	0	136·1	420·8		105·7	
		50	0	135·3	406·5		104·8	
		55	0	134·4	403·3		103·3	
	9	0	0	132·9	395·5	60	102·3	60
		5	0	132·3	390·4		101·0	
		10	0	132·2	390·6		100·2	
		15	0	132·0	394·3		99·5	
		20	0	131·0	394·3		99·3	
		25	0	131·0	394·0		98·8	
	10	0	0	135·4	410·3	60	100·0	60
	12	0	0	137·1	398·9	60	99·9	59
	14	0	0	136·6	410·1	60	97·1	59
	16	0	0	134·9	408·7	59	97·3	59
	18	0	0	141·5	422·0	58	83·9	59
	20	0	0	138·4	422·8	58	88·6	59
	22	0	0	132·5	412·8	58	95·5	59
28	0	0	0	124·8	366·5	58	84·9	59
	2	0	0	142·9	421·0	58	93·6	59
	4	0	0	135·4	382·1	57	96·6	57
	6	0	0	127·5	391·3	57	97·6	57
	8	0	0	125·6	396·7	58	99·3	58
	10	0	0	133·5	419·6	58	102·5	58
	12	0	0	133·6	416·6	58	100·5	58
	14	0	0	140·4	409·1	58	99·6	58
	16	0	0	134·9	420·8	58	98·8	58
	18	0	0	142·9	383·6	58	92·5	58

SEPTEMBER 25, 26, 27, 28, and 29, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther.	Sc.-Div^{ns}.	Ther.
28	20	0	0	149·9	398·1	57	84·7	58
	22	0	0	142·6	403·0	57	83·8	58
29	0	0	0	142·3	410·2	57	94·0	58
	2	0	0	145·0	412·1	57	96·5	57
	4	0	0	127·3	361·0	57	95·2	58
	6	0	0	127·1	408·9	58	97·0	58
	8	0	0	127·1	412·9	58	100·3	58
	10	0	0	133·9	423·5	58	100·1	58
	12	0	0	135·9	424·0	58	99·0	58
	14	0	0	135·6	423·4	58	98·6	58
	16	0	0	149·8	374·0	58	89·7	58
	20	0	0	135·3	419·7	57	96·1	58
	22	0	0	137·3	426·7	56	98·6	57

Mean Positions at the usual hours of observation during the Month.[b]

0	0	0	142·1	394·5	66	81·2	63
2	0	0	142·9	386·4	66	86·8	63
4	0	0	136·5	368·0	67	89·1	63
6	0	0	130·7	381·6	68	90·4	63
8	0	0	129·3	392·8	69	92·5	64
10	0	0	134·0	396·1	70	92·4	64
12	0	0	136·0	396·9	69	96·1	64
14	0	0	139·6	393·3	69	92·8	64
16	0	0	138·4	388·8	68	84·0	64
18	0	0	140·9	390·7	68	85·8	64
20	0	0	140·1	391·2	67	84·8	64
22	0	0	140·4	390·9	66	81·6	63

ST. HELENA { Decl. 1 Scale Division = 0′·71
H. F. k = ·00018; q = ·00025
V. F. k = ·00022; q =

Regular and extra observations.

The V. F. was observed at 2^{m}. 30^{s}. before, and the H. F. 2^{m}. 30^{s}. after the times specified.

24	0	0	0	29·0	172·0	60	56·3	60
		5	0	29·1				
		10	0	29·1	172·1		56·0	
		15	0	29·7				
		20	0	29·9	173·0		55·8	
		25	0	30·0				
		30	0	30·1	173·0		55·7	
		35	0	30·1				
		40	0	30·8	173·0		55·6	
		45	0	30·8				
		50	0	30·9	173·0		55·5	
		55	0	30·9				
	1	0	0	30·9	173·0	61	55·4	61
		5	0	30·9				
		10	0	30·8	172·8		55·1	
		15	0	30·3				
		20	0	30·2	172·8		55·0	
		25	0	30·5				
		30	0	30·4	172·6		54·7	
		35	0	30·1				
		40	0	30·0	172·1		54·9	
		45	0	30·1				

[a] The Magnetometers showed some disturbance at an earlier hour; the sky being clear from 26^{d}. 18^{h}., to 20^{h}., no Auroral light was perceptible. Additional observations were made at 27^{d}. 2^{h}.; the readings, &c., of the Decl. magnet being considerably below the average at that hour. (25^{d}. 18^{h}. to 26^{d}. 18^{h}. fell on Sunday at Toronto.)

[b] The mean positions of the V. F. magnet are from the 17th to the 30th September, inclusive.

September 24, 25, 26, 27, 28, and 29, 1841.							
M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
24	1	50	0	29·9	171·1		54·6	
		55	0	29·9				
	2	0	0	29·3	170·2	62	54·0	61
	3	0	0	27·9	167·0	62	54·7	61
	4	0	0	26·0	163·2	61	54·7	61
	5	0	0	25·2	158·9	62	54·0	61
	6	0	0	23·4	153·0	62	53·5	62
	8	0	0	22·2	143·9	61	55·9	61
		5	0	22·3				
		10	0	22·3	143·9		55·9	
		15	0	22·4				
		20	0	22·4	144·0		55·9	
		25	0	22·1				
		30	0	22·0	144·9		55·9	
		35	0	22·0				
		40	0	21·8	145·9		55·9	
		45	0	21·9				
		50	0	22·1	144·2		56·3	
		55	0	22·0				
	9	0	0	21·6	144·9	61	Vibr^{n}.	61
		5	0	21·5				
		10	0	21·5	145·0		57·9	
		15	0	21·5				
		20	0	21·3	145·4		58·2	
		25	0	21·2				
		30	0	21·1	144·8		58·1	
		35	0	21·5				
		40	0	21·4	144·5		58·5	
		45	0	21·1				
		50	0	21·1	143·1		58·4	
		55	0	21·1				
	10	0	0	21·1	142·0	61	58·7	61
		5	0	21·1				
		10	0	21·1	141·5		58·9	
		15	0	21·1				
		20	0	21·1	142·5		59·0	
		25	0	21·0				
		30	0	21·1	143·9		58·8	
		35	0	21·1				
		40	0	21·1	143·9		58·9	
		45	0	21·5				
		50	0	21·4	143·9		59·0	
		55	0	21·1				
	11	0	0	20·9	144·0	60	59·0	60
		5	0	20·9				
		10	0	19·6	143·9			
		15	0	19·7				
		20	0	19·5	143·0		58·9	
		25	0	19·2				
		30	0	19·2	142·5		58·8	
		35	0	20·0				
		40	0	20·1	142·3		58·9	
		45	0	20·1				
		50	0	20·1	142·8		59·1	
		55	0	20·1				
	12	0	0	20·7	144·6	60	59·3	60
		5	0	21·2				
		10	0	21·4	144·9		59·8	
		15	0	21·2				
		20	0	21·1	144·9		59·9	
		25	0	21·0				
		30	0	20·9	145·3		59·9	
		35	0	20·7				
		40	0	20·0	145·9		59·9	
		45	0	19·8				
		50	0	19·8	146·2		59·8	
		55	0	19·8				

September 24, 25, 26, 27, 28, and 29, 1841.							
M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
24	13	0	0	19·6	144·9	60	59·8	60
		5	0	19·7				
		10	0	19·9	144·1		59·9	
		15	0	20·4				
		20	0	20·7	144·1		60·4	
		25	0	20·9				
		30	0	20·9	144·1		60·4	
		35	0	21·0				
		40	0	21·2	144·9		61·3	
		45	0	21·4				
		50	0	21·3	145·0		61·3	
		55	0	21·1				
	14	0	0	21·0	145·6	60	61·7	60
		5	0	21·1				
		10	0	21·1	146·8		61·9	
		15	0	21·3				
		20	0	21·6	148·0		61·9	
		25	0	20·8				
		30	0	21·0	150·9		61·9	
		35	0	21·5				
		40	0	21·8	151·8		61·9	
		45	0	21·9				
		50	0	21·9	149·0		62·0	
		55	0	22·0				
	15	0	0	22·1	148·2	60	61·9	60
		5	0	22·3				
		10	0	22·8	148·7		62·0	
		15	0	22·7				
		20	0	22·7	150·2		62·0	
		25	0	22·8				
		30	0	22·9	152·0		62·1	
		35	0	22·9				
		40	0	22·9	152·6		62·1	
		45	0	23·0				
		50	0	23·1	153·0		62·1	
		55	0	23·2				
	16	0	0	23·2	152·9	60	62·1	60
		5	0	24·0				
		10	0	24·4	152·4		62·2	
		15	0	24·5				
		25	0	25·1				
		30	0	25·1	152·3		62·2	
		35	0	25·2				
		40	0	25·5	153·0		62·6	
		45	0	25·8				
		50	0	26·0	153·0		62·6	
		55	0	26·2				
	17	0	0	26·8	151·8	60	62·9	60
		5	0	26·9				
		10	0	26·3	151·0		62·7	
		15	0	26·1				
		20	0	26·1	152·0		62·7	
		25	0	27·0				
		30	0	27·1	152·9		63·0	
		35	0	27·1				
		40	0	27·1	153·0		62·8	
		45	0	27·2				
		50	0	27·1	153·8		62·5	
		55	0	27·1				
	18	0	0	27·2	153·9	60	62·6	59
		5	0	27·1				
		10	0	27·0	154·1		63·5	
		15	0	27·0				
		20	0	27·1	154·2		63·5	
		25	0	27·5				
		30	0	27·5	154·0		62·3	
		35	0	27·7				

September 24, 25, 26, 27, 28, and 29, 1841.							
M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
24	18	40	0	27·8	153·0		62·3	
		45	0	28·0				
		50	0	28·0	152·2		62·0	
		55	0	28·1				
	19	0	0	28·1	152·0	60	62·0	59
		5	0	28·1				
		10	0	28·1	151·7		62·0	
		15	0	28·1				
		20	0	28·0	151·5		61·9	
		25	0	27·9				
		30	0	27·7	151·5		61·9	
		35	0	27·2				
		40	0	27·0	151·5		61·8	
		45	0	27·0				
		50	0	27·1	151·5		61·6	
		55	0	27·1				
	20	0	0	27·1	151·5	60	61·6	59
		5	0	27·0				
		10	0	26·7	151·9		61·6	
		15	0	26·6				
		20	0	26·4	151·5		61·8	
		25	0	26·4				
		30	0	26·3	150·5		61·8	
		35	0	26·3				
		40	0	26·3	150·8		61·8	
		45	0	26·5				
		50	0	26·7	151·1		61·9	
		55	0	26·9				
	21	0	0	27·1	151·5	60	62·1	59
		5	0	27·1				
		10	0	27·5	152·0		62·1	
		15	0	27·0				
		20	0	27·0	152·0		62·0	
		25	0	27·0				
		30	0	27·0	153·1		62·0	
		35	0	27·0				
		40	0	26·9	154·0		62·0	
		45	0	27·0				
		50	0	26·9	155·0		61·9	
		55	0	26·9				
	22	0	0	26·8	155·4	60	61·9	59
		5	0	26·8				
		10	0	26·1	155·0		61·9	
		15	0	26·5				
		20	0	26·9	154·9		62·1	
		25	0	26·7				
		30	0	26·1	152·7		62·1	
		35	0	25·7				
		40	0	25·2	150·0		60·9	
		45	0	25·2				
		50	0	25·2	149·2		60·8	
		55	0	25·1				
	23	0	0	25·1	148·0	60	60·4	60
		5	0	25·2				
		10	0	24·9	147·4		60·4	
		15	0	24·9				
		20	0	24·9	148·0		60·5	
		25	0	24·9				
		30	0	21·9	147·8		60·5	
		35	0	24·6				
		40	0	24·4	148·9		60·7	
		45	0	24·4				
		50	0	24·7	148·7		60·7	
		55	0	24·0				
	25	0	0	23·6	144·2	60	60·7	60
		5	0	23·1				
		10	0	23·3	142·9		60·7	

September 24, 25, 26, 27, 28, and 29, 1841.																							
M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.		M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.		M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °	d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °	d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
25	0	15	0	23·3					25	5	35	0	17·9					25	10	55	0	20·2				
		20	0	23·1	140·9		60·6				40	0	18·0	107·6		59·5			11	0	0	20·3	121·8	61	66·1	61
		25	0	23·1							45	0	18·8							5	0	20·4				
		30	0	23·8	140·0		60·6				50	0	19·0	104·8		59·7				10	0	20·2	121·8		66·5	
		35	0	23·9							55	0	18·8							15	0	20·1				
		40	0	23·4	140·5		60·5			6	0	0	18·8	103·5	62	59·7	61			20	0	20·1	122·1		66·5	
		45	0	22·9							5	0	18·8							25	0	19·8				
		50	0	22·0	138·0		60·5				10	0	18·5	102·5		59·6				30	0	19·4	122·4		64·3	
		55	0	22·1							15	0	18·9							35	0	19·2				
	1	0	0	22·4	136·8	61	60·2	61			20	0	19·7	100·8		60·0				40	0	19·2	123·0		59·0	
		5	0	21·9							25	0	20·0							45	0	19·1				
		10	0	21·8	135·2		59·9				30	0	20·0	97·0		60·1				50	0	19·1	123·2		60·1	
		15	0	21·9							35	0	19·6							55	0	19·2				
		20	0	22·0	135·0		59·9				40	0	19·9	95·1		60·2			12	0	0	19·5	123·2	61	61·7	60
		25	0	22·1							45	0	20·1							5	0	19·8				
		30	0	21·9	134·1		59·9				50	0	20·3	91·9		60·2				10	0	19·7	123·3		64·3	
		35	0	21·9							55	0	20·8							15	0	19·7				
		40	0	22·5	134·4		59·9			7	0	0	21·1	90·9	62	60·3	61			20	0	19·6	123·3		64·3	
		45	0	22·7							5	0	21·2							25	0	19·2				
		50	0	22·6	134·0		60·2				10	0	21·4	90·8		60·0				30	0	19·1	123·1		65·3	
		55	0	23·1							15	0	21·4							35	0	19·1				
	2	0	0	23·7	132·9	62	60·2	61			20	0	21·4	90·2		61·2				40	0	19·1	123·0		65·5	
		5	0	23·2							25	0	21·8							45	0	19·1				
		10	0	23·2	130·5		60·6				30	0	21·6	89·9		63·2				50	0	19·1	123·0		66·2	
		15	0	23·0							35	0	21·9							55	0	19·1				
		20	0	21·8	127·9		60·5				40	0	21·2	88·8		62·5			21	0	0[a]	22·8	148·2		66·0	
		25	0	21·8							45	0	21·4						23	0	0	22·2	151·6		[b]	
		30	0	21·9	127·9		60·8				50	0	21·2	89·7		62·7		26	3	0	0	22·8	148·2		66·0	
		35	0	21·2							55	0	21·4							8	0	0	22·2	143·8		63·2	
		40	0	21·0	125·1		60·8			8	0	0	21·6	90·0	62	63·1	61			13	30	0	23·9	149·2		64·4	
		45	0	20·5							5	0	22·0							14	0	0	23·4	147·9	60	64·1	59
		50	0	20·7	123·9		60·6				10	0	21·7	94·8		63·9				14	30	0	23·4	147·5		64·1	
		55	0	20·9							15	0	21·0							15	0	0	22·9	147·0	60	64·0	59
	8	0	0	21·1	123·1	62	60·5	61			20	0	20·9	98·2		63·9				15	30	0	22·8	147·2		63·8	
		5	0	21·1							25	0	20·5							16	0	0	22·4	147·9	60	63·8	59
		10	0	21·1	122·0		60·5				30	0	20·5	100·8		64·0				18	0	0	22·0	149·6	60	64·5	59
		15	0	21·0							35	0	20·1							18	30	0	22·9	149·6		64·5	
		20	0	20·5	119·0		60·3				40	0	20·0	102·1		63·9				19	0	0	24·0	149·0		64·6	59
		25	0	20·8							45	0	20·0							19	30	0	24·0	148·5		64·4	
		30	0	21·8	121·0		60·1				50	0	19·7	106·0		63·5				20	0	0	22·0	150·0	60	64·2	59
		35	0	22·8							55	0	19·2							20	30	0	21·5	148·5		64·5	
		40	0	23·5	114·3		60·8			9	0	0	19·1	107·4	61	63·3	61			21	0	0	20·0	146·0		64·1	59
		45	0	22·5							5	0	19·1							21	30	0	18·7	144·6		63·6	
		50	0	22·9	113·0		60·9				10	0	19·1	109·1		64·0				22	0	0	19·5	147·0	59	63·2	59
		55	0	22·1							15	0	19·1							22	30	0	19·6	148·1		61·6	
	4	0	0	21·5	110·7	62	60·7	61			20	0	20·0	111·1		64·7				23	0	0	19·0	145·1		60·4	59
		5	0	20·6							25	0	20·0								5	0	19·3				
		10	0	20·7	111·1		60·7				30	0	20·0	114·0		64·8					10	0	19·6	145·1		59·9	
		15	0	20·6							35	0	20·9								15	0	19·1				
		20	0	21·0	111·9		60·6				40	0	21·0	115·1		64·9					20	0	19·1	146·0		59·8	
		25	0	20·1							45	0	21·2								25	0	19·9				
		30	0	20·1	109·3		60·6				50	0	21·4	116·0		65·2					30	0	20·2	148·0		59·8	
		35	0	19·2							55	0	21·2								35	0	20·9				
		40	0	18·9	110·3		60·2			10	0	0	21·0	116·9	61	65·2	61				40	0	21·2	149·2		59·7	
		45	0	18·0							5	0	20·8								45	0	21·2				
		50	0	18·0	110·0		60·1				10	0	20·5	117·5		66·0					50	0	21·9	150·9		59·7	
		55	0	17·9							15	0	20·7								55	0	22·0				
	5	0	0	17·6	109·0	62	59·9	62			20	0	20·7	118·5		65·7			27	0	0	0	22·9	152·0	60	59·7	60
		5	0	17·5							25	0	20·8								5	0	23·9				
		10	0	17·1	108·0		59·8				30	0	20·8	118·6		65·5					10	0	24·1	152·0		59·6	
		15	0	17·2							35	0	20·8								15	0	24·7				
		20	0	17·1	108·1		59·5				40	0	20·7	119·4		65·8					20	0	25·0	151·0		59·2	
		25	0	17·8							45	0	20·6								25	0	25·0				
		30	0	17·9	107·9		59·5				50	0	20·4	120·0		65·8					30	0	25·0	149·8		58·8	

[a] 25^{d}. 13^{h}., to 26^{d}. 12^{h}., fell on Sunday at St. Helena.

[b] Vibrating too much for a correct reading.

| September 24, 25, 26, 27, 28, and 29, 1841. | | |

SEPTEMBER 24, 25, 26, 27, 28, and 29, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
29	*20*	*0*	*0*	*18·8*	*151·2*	*61*		
	20	*30*	*0*	*18·9*	*152·4*			
	22	*0*	*0*	*20·9*	*158·5*	*60*		
	23	*0*	*0*	*22·1*	*161·0*	*61*		

The Mean Positions at the same hours during the Month of September are given in page 76.

CAPE OF GOOD HOPE { Decl. 1 Scale Division = 0′·75 / H. F. k = ·000180; q = ·0003 / V. F.[a]

Regular and extra observations.

The H. F. was observed at 2^m. 30^s. after the times specified.

24	0	0	0	53·0	90·0	56		
	2	0	0	55·3	85·0	57		
		25	0	55·5				
		30	0	55·4	83·6	57		
		35	0	55·6				
		40	0	55·6	83·4			
		50	0	55·5	82·8			
	3	55	0	54·2				
	4	0	0	54·0	75·0	57		
	6	0	0	52·2	70·0	58		
		5	0	52·1				
		10	0	52·5	69·1			
		15	0	52·3				
		20	0	51·4	68·0			
		25	0	50·7				
		30	0	50·3	67·0			
		35	0	50·2				
		40	0	50·5	65·6			
		50	0	50·7	65·2			
		55	0	50·1				
	7	0	0	50·0	63·9	59		
		5	0	50·0				
		10	0	49·5	63·0			
		15	0	49·5				
		20	0	49·6	62·0			
		25	0	49·1				
		30	0	48·7	62·0			
		35	0	48·7				
		40	0	48·0	61·3			
		45	0	48·0				
		50	0	47·9	61·4			
		55	0	47·6				
	8	0	0	47·5	61·2	59		
		5	0	47·2				
		10	0	47·5	61·8			
		15	0	47·7				
		20	0	47·9	62·8			
		25	0	47·0				
		30	0	47·4	64·0			
		35	0	48·2				
		40	0	48·2	64·0			
		45	0	48·8				
		50	0	48·3	62·8			
		55	0	47·4				
	9	0	0	47·0	64·8	58		
		5	0	46·9				
		10	0	46·9	66·1			
		15	0	46·9				
		20	0	46·9	66·2			

SEPTEMBER 24, 25, 26, 27, 28, and 29, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
24	9	25	0	46·9				
		30	0	46·9	64·7			
		35	0	46·9				
		40	0	46·9	64·9			
		45	0	46·5				
		50	0	40·9	64·2			
		55	0	46·9				
	10	0	0	46·8	63·2	59		
		5	0	45·9				
		10	0		63·0			
		15	0	46·3				
		20	0	46·1	64·9			
		25	0	45·9				
		30	0	46·1	67·6			
		35	0	46·4				
		40	0	46·2	66 2			
		45	0	47·1				
		50	0	46·9	66·6			
		55	0	46·0				
	11	0	0	45·0	68·8	58		
		5	0	43·0				
		10	0	42·0	69·3			
		15	0	41·9				
		20	0	41·5	68·0			
		25	0	41·5				
		30	0	41·9	67·1			
		35	0	43·0				
		40	0	43·9	67·2			
		45	0	44·0				
		50	0	44·5	68·0			
		55	0	45·0				
	12	0	0	46·1	69·6	58		
		5	0	47·1				
		10	0	47·7	69·0			
		15	0	47·0				
		20	0	46·5	69·0			
		25	0	46·5				
		30	0	46·2	70·0			
		35	0	46·0				
		40	0	45·2	72·1			
		45	0	45·1				
		50	0	45·2	73·1			
		55	0	45·0				
	13	0	0	44·0	71·1	58		
		5	0	43·8				
		10	0	44·1	70·1			
		15	0	44·4				
		20	0	44·2	70·0			
		25	0	44·5				
		30	0	44·9	70·1			
		35	0	45·0				
		40	0	45·4	71·0			
		45	0	45·2				
		50	0	45·1	71·1			
		55	0	45·0				
	14	0	0	45·2	71·9	58		
		5	0	45·2				
		10	0	45·3	72·9			
		15	0	46·3				
		20	0	47·2	78·1			
		25	0	45·5				
		30	0	46·0	79·5			
		35	0	47·9				
		40	0	49·4	79·0			

SEPTEMBER 24, 25 26, 27, 28, and 29, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
24	14	45	0	49·4				
		50	0	49·1	75·8			
		55	0	50·0				
	15	0	0	50·9	73·7	57		
		5	0	51·7				
		10	0	52·8	72·9			
		15	0	53·0				
		20	0	53·4	75·8			
		25	0	53·9				
		30	0	53·7	77·9			
		35	0	53·6				
		40	0	53·1	78·7			
		45	0	53·2				
		50	0	53·2	76·8			
		55	0	53·8				
	16	0	0	54·6	74·4	57		
		5	0	55·7				
		10	0	56·1	73·0			
		15	0	56·9				
		20	0	56·9	72·2			
		25	0	57·0				
		30	0	57·0	74·0			
		35	0	57·5				
		40	0	58·1	74·5			
		45	0	58·0				
		50	0	59·0	73·0			
		55	0	59·0				
	17	0	0	58·7	71·0	57		
		5	0	57·3				
		10	0	57·8	70·8			
		15	0	57·4				
		20	0	58·0	71·3			
		25	0	59·0				
		30	0	59·6	71·7			
		35	0	59·8				
		40	0	58·7	72·5			
		45	0	59·0				
		50	0	59·8	72·7			
		55	0	60·1				
	18	0	0	60·1	74·2	57		
		5	0	59·8				
		10	0	60·1	76·1			
		15	0	59·5				
		20	0	59·9	77·0			
		25	0	59·3				
		30	0	59·0	77·0			
		35	0	59·4				
		40	0	58·4	77·0			
		45	0	57·5				
		50	0	57·7	77·8			
		55	0	57·2				
	19	0	0	57·5	78·1	57		
		5	0	56·2				
		10	0	55·9	78·0			
		15	0	55·2				
		20	0	55·5	77·8			
		25	0	54·7				
		30	0	54·7	77·4			
		35	0	54·7				
		40	0	54·1	77·3			
		45	0	54·4				
		50	0	54·2	77·2			
		55	0	54·0				
	20	0	0	53·8	76·8	56		

[a] The V. F. magnet was not in satisfactory adjustment.

| September 24, 25, 26, 27, 28, and 29, 1841. | | |

SEPTEMBER 24, 25, 26, 27, 28, and 29, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
25	22	0	0	52·1	65·3	56		
26	0	0	0	52·4	58·9	57		
	1	50	0	53·0	66·9	57		
	2	0	0	53·2	67·0	57		
	2	7	30	53·4	66·9			
	4	0	0	49·0	57·0	57		
	6	0	0	49·2	61·0	57		
	8	0	0	48·5	65·0			
	11	0	0	53·0	71·4			
	13	0	0	52·8	74·5	56		
	14	0	0	51·1	70·3			
		5	0	50·6				
		10	0	50·9	70·0			
		15	0	50·3				
		20	0	50·4	70·2			
		25	0	50·2				
		30	0	50·3	70·8			
		35	0	50·2				
		40	0	50·1	69·8			
		45	0	50·0				
		50	0	50·0	70·0			
	15	0	0	50·0	70·0	56		
	16	0	0	50·2	68·7	56		
	17	0	0	51·4	69·7	55		
	18	0	0	50·6	72·7	55		
	20	0	0	46·0	75·8	55		
	22	0	0	44·1	63·7	55		
27	0	0	0	50·0	67·0	56		
	2	0	0	53·1	60·9	56		
	4	0	0	48·2	60·6	57		
	6	0	0	50·4	61·4	57		
	8	0	0	49·0	69·1	57		
	10	0	0	50·0	65·0	56		
	12	0	0	52·5	71·0	56		
	14	0	0	52·8	73·5	56		
	16	0	0	50·7	73·4	56		
	18	0	0	52·9	72·9	55		
	20	0	0	46·5	80·0	56		
	22	0	0	46·9	80·0	55		
28	0	0	0	46·9	65·2	56		
	2	0	0	53·5	71·5	57		
	4	0	0	51·0	69·0	57		
	6	0	0	50·2	69·0	58		
	8	0	0	49·0	68·0	58		
	10	0	0	50·5	69·2	58		
	12	0	0	52·0	72·2	58		
	14	0	0	52·6	75·0	57		
	16	0	0	50·5	74·2	57		
	18	0	0	50·5	74·6	57		
	20	0	0	49·3	77·7	57		
	22	0	0	51·6	71·8	57		
29	0	0	0	53·2	71·5	58		
	2	0	0	55·0	71·9	58		
	4	0	0	51·6	61·5	58		
	6	0	0	50·0	67·1	58		
	8	0	0	50·0	66·8	58		
	10	0	0	50·8	69·0	57		
	12	0	0	50·8	73·0	57		
	13	0	0	51·4	73·2	57		
	14	0	0	51·0	73·8	57		
	15	0	0	56·0	78·2	57		
	16	0	0	52·2	79·5	57		
	17	0	0	51·0	76·2	57		
	18	0	0	51·0	76·0	57		
	19	0	0	50·0	77·8	57		
	20	0	0	48·9	75·6	57		
	21	0	0	49·2	73·1	57		

SEPTEMBER 24, 25, 26, 27, 28, and 29, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
29	22	0	0	50·2	72·3	57		
	23	0	0	52·2	71·6	57		

The Mean Positions at the same hours during the Month are given in page 76.

VAN DIEMEN ISLAND
Decl. 1 Scale Division = 0′·71
H. F. k = ·0003 ; q =
V. F. k = ; q =

Regular and extra observations.

The V. F. was observed at 2^m. 30^s. before, and the H. F. 2^m. 30^s. after the times specified.

24	0	0	0	108·6	60·4	57	96·6	56
	1	0	0	106·6	60·1		97·5	
	2	0	0	104·4	60·2	56	98·3	54
	3	0	0	104·1	60·1		96·9	
	4	0	0	103·9	60·4	55	100·7	53
	5	0	0	103·3	59·4		101·3	
	6	0	0	110·2	63·7	53	101·6	52
		10	0	106·8	61·5			
		15	0	106·4				
		20	0	108·7	61·3		98·8	
		25	0	109·1				
		30	0	109·4	60·3		99·2	
		35	0	110·1				
		40	0	109·5	61·1		102·3	
		45	0	108·8				
		50	0	109·3	61·1		100·5	
	7	0	0	114·7	62·5		101·1	
		10	0	111·3	61·0			
		15	0	109·4				
		20	0	110·2	59·7		96·9	
		25	0	112·4				
		30	0	114·1	59·4		97·4	
		35	0	114·4				
		40	0	114·1	59·8		97·8	
		45	0	113·3				
		50	0	113·9	59·7		98·3	
		55	0	114·2				
	8	0	0	114·2	59·6	55	98·3	55
		5	0	115·4				
		10	0	115·2	58·6		98·7	
		15	0	116·7				
		20	0	118·7	58·0		96·9	
		25	0	121·3				
		30	0	123·5	58·1		97·1	
		35	0	122·3				
		40	0	121·8	58·3		96·9	
		45	0	123·1				
		50	0	121·2	58·5		96·9	
		55	0	120·0				
	9	0	0	119·8	58·1		96·9	
		10	0	120·1				
		15	0		57·7			
		20	0	119·5				
		25	0				96·4	
		30	0	117·9				
		35	0		58·3			
		40	0	118·1				
		45	0				95·8	
		50	0	115·9				

SEPTEMBER 24, 25, 26, 27, 28, and 29, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
24	10	0	0	115·4	59·7	54	96·7	54
		10	0	113·1				
		15	0		58·9			
		20	0	112·6				
		25	0				93·8	
		30	0	112·4				
		35	0		57·6			
		40	0	112·3				
	11	0	0	112·5	56·9	54	97·4	54
	12	0	0	109·9	51·9	54	97·5	54
		15	0	108·1				
		20	0	109·7	50·6		97·0	
		25	0	110·8				
		30	0	110·2	49·0		97·6	
		35	0	110·1				
		40	0	110·2	48·2		98·6	
		45	0	109·2				
		50	0	109·4	52·9		97·6	
		55	0	109·2				
	13	0	0	110·8	48·9		97·3	
		10	0	109·2	48·7			
		15	0	108·7				
		20	0	109·3	48·2		95·1	
		25	0	109·5				
		30	0	109·5	47·0		95·2	
		35	0	109·3				
		40	0	109·2	46·8		105·0	
		45	0	109·7				
		50	0	110·0	46·6			
		55	0	110·3				
	14	0	0	110·7	46·4	60	94·9	58
	15	0	0	111·5	43·5		97·4	
	16	0	0	115·6	45·5	62	98·0	60
	17	0	0	117·5	44·8		100·8	
	18	0	0	110·1	47·6	64	98·7	61
	19	0	0	117·7	50·6		98·1	
	20	0	0	119·7	49·5	63	101·6	60
	21	0	0	102·1	45·0		102·9	
		5	0	104·5				
		10	0	105·2	44·2		104·0	
		15	0	105·2				
	22	0	0	103·2	41·1	60	108·8	58
	23	0	0	98·7	42·2		109·2	
25	0	0	0	71·3	46·8	58	80·2	56
		10	0	59·6	53·4			
		15	0	72·1				
		20	0	95·2	53·5		75·9	
		25	0	102·3				
		30	0	95·9	44·4		82·5	
		35	0	89·6				
		40	0	85·1	45·1		86·5	
		45	0	84·9				
		50	0	94·8	43·1		89·5	
	1	0	0	88·4	42·0	58	90·2	58
		10	0	86·2	40·0			
		15	0	83·1				
		20	0	78·8	34·7		88·5	
		25	0	73·5				
		30	0	70·6	31·9		87·1	
		35	0	69·2				
		40	0	69·0	28·1		87·1	
		45	0	69·2				
	2	0	0	93·9	24·7	58	88·3	58
		15	0	73·5	22·7		65·1	
		20	0	77·8				
		30	0	75·1	27·4		69·6	
		35	0	68·6				

SEPTEMBER 24, 25, 26, 27, 28, and 29, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
25	2	45	0	71·1	21·8		68·2	
	3	0	0[a]					
26	4	0	0	106·4	54·7	55	101·4	54
	5	0	0	106·3	52·2		101·9	
	6	0	0	105·0	53·9	54	99·8	53
	7	0	0	110·2	53·1		103·2	
	8	0	0	109·1	53·7	54	101·2	53
	9	0	0	107·5	56·5		98·2	
	10	0	0	107·1	53·5	54	100·7	53
	11	0	0	102·2	51·4		100·2	
	12	0	0	103·3	51·4	55	97·1	55
	13	0	0	106·2	47·6		101·2	
	14	0	0	108·4	48·2	59	97·0	57
	15	0	0	112·5	47·6			
	16	0	0	113·7	50·3	64	94·4	62
	17	0	0	115·6	46·1		94·0	
	18	0	0	116·8	48·5	65	92·7	63
	19	0	0	116·8	46·7		96·2	
	20	0	0	113·8	48·5	65	98·5	62
	21	0	0	105·7	46·4		101·0	
	22	0	0	105·4	46·6	63	94·3	60
	23	0	0[b]	91·5	50·7	62	90·6	61
		10	0	87·1	51·6			
		15	0	91·1				
		20	0	92·0	52·7		114·6	61
		25	0	100·1				
		30	0	102·3	49·6		111·7	
		35	0	101·5				
		40	0	100·2	46·0		108·6	
		45	0	97·4				
		50	0	100·3	48·6		106·0	
		55	0	103·8				61
27	0	0	0	104·5	48·2	61	95·5	
		5	0	103·0				
		10	0	102·1	46·7		95·1	
		15	0	101·6				
		20	0	100·3	45·8		95·4	
		25	0	99·2				
		30	0	99·1	45·4		95·3	
		35	0	98·8				
		40	0	99·3	45·5		96·0	
		45	0	101·0				
		50	0	102·6	51·5	61	96·4	
		55	0	103·5				
	1	0	0	102·8	51·1		88·8	
	2	0	0	95·7	54·3	59	93·4	59
		15	0	100·1	52·3		87·7	
		22	30	105·5	51·6		88·2	
		30	0	103·7	51·4		89·2	
		37	30	102·8	53·9		88·1	
		45	0	105·6	52·1		88·2	
	3	0	0	104·8	51·3		90·6	
	4	0	0	110·0	52·8	56	95·1	57
	5	0	0	102·6	52·2		84·0	
	6	0	0	105·1	50·2	57	95·6	55
	7	0	0	105·1	52·8		93·6	
	8	0	0	110·1	53·2	55	100·2	54
	9	0	0	108·2	53·5		98·7	
	10	0	0	105·5	54·4	56	96·3	55
	11	0	0	106·0	55·0		95·3	
	12	0	0	103·0	51·1	58	95·8	57
	13	0	0	104·8	50·5		93·6	
	14	0	0	109·0	49·6	60	91·8	61

SEPTEMBER 24, 25, 26, 27, 28, and 29, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
27	15	0	0	112·0	49·2		90·6	
	16	0	0	115·0	50·5	64	88·8	63
	17	0	0	115·4	48·4		88·8	
	18	0	0	116·8	46·9	67	93·1	65
	19	0	0	112·0	46·4		91·6	
	20	0	0	113·0	49·9	68	87·9	65
	21	0	0	108·6	49·2		87·9	
	22	0	0	105·6	51·2	66	86·7	64
	23	0	0	105·8	51·7		88·7	
28	0	0	0	113·9	59·1	64	83·3	62
		10	0	110·9	50·3			
		15	0	98·0				
		20	0	92·7	52·1		78·5	
		25	0	91·7				
		30	0	94·8	54·1		81·1	
		35	0	99·2				
		40	0	101·7	51·7		82·5	
		45	0	102·6				
		50	0	103·1			86·5	
	1	0	0	100·0	49·1		89·3	
	2	0	0	103·2	49·0	63	95·4	62
	3	0	0	104·8	50·6		92·8	
	4	0	0	108·5	54·1	61	91·1	60
	5	0	0	107·8	54·0		88·8	
	6	0	0	109·9	55·1	58	94·1	58
	7	0	0	113·4	55·5		96·2	
	8	0	0	108·4	55·5	58	91·3	57
	9	0	0	105·4	55·2		97·0	
	10	0	0	105·5	55·1	57	96·4	56
	11	0	0	102·2	52·5		97·4	
	12	0	0	100·9	51·5	58	95·6	58
	13	0	0	104·4	50·5		96·2	
	14	0	0	108·1	49·8	61	95·6	59
	15	0	0	111·4	51·8		93·6	
	16	0	0	113·5	52·0	63	92·5	62
	17	0	0	115·7	52·5		92·6	
	18	0	0	116·5	51·5	66	94·5	62
	19	0	0	116·6	46·9		101·3	
	20	0	0	115·9	48·5	64	95·7	63
	21	0	0	111·9	48·2		96·4	
	22	0	0	106·2	51·3	63	89·8	61
	23	0	0	104·2	49·2		91·5	
29	0	0	0	107·7	51·5	62	99·1	61
	1	0	0	107·4	52·3		98·5	
	2	0	0	106·2	53·6	60	94·2	58
	3	0	0	109·9	57·3		88·5	
	4	0	0	92·3	53·9	58	90·3	57
		10	0	90·1	53·1		88·4	
		15	0	89·4				
		20	0	92·4	53·2		87·8	
		25	0	94·9				
		30	0	95·7	53·4		89·0	
		35	0	98·1				
		40	0	98·4	52·1		90·5	
		45	0	99·1				
		50	0	98·3	51·8		91·9	
		55	0	98·7				
	5	0	0	99·7	51·5	58	92·9	58
		10	0	101·8	51·6			
		15	0	104·3				
		20	0	105·3	51·6		95·1	
		25	0	105·8				
		30	0	107·1	51·7		95·8	

SEPTEMBER 24, 25, 26, 27, 28, and 29, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
29	5	35	0	107·6				
		40	0	108·6	51·7		96·9	
		45	0	108·4				
		50	0	108·1	52·1		96·8	
	6	0	0	107·4	52·0	58	95·7	58
	7	0	0	110·6	53·3		97·5	
	8	0	0	107·8	54·8	57	96·5	56
	9	0	0	106·1	55·2		97·0	
	10	0	0	104·1	54·3	56	98·5	55
	11	0	0	101·9	50·6		101·9	
	12	0	0	102·5	52·6	56	99·4	55
	13	0	0	105·2	52·2		97·3	
	14	0	0	108·4	53·0	57	99·2	56
	15	0	0	110·7	52·8		108·0	
	16	0	0	114·4	51·0	59	103·2	57
	17	0	0	116·1	53·0		99·2	
	18	0	0	117·2	53·0	61	98·6	59
	19	0	0	117·2	52·2		96·1	
	20	0	0	110·9	52·5	63	93·0	60
	21	0	0	108·5	52·1		93·0	
	22	0	0	108·8	52·2	63	91·8	61
	23	0	0	108·8	52·4		95·0	

The Mean Positions at the same hours during the Month are given in page 75.

ANTARCTIC EXPEDITION AT THE BAY OF ISLANDS, NEW ZEALAND.

Decl. 1 Scale Division = 0′·73
H. F. k = ·00018 ; q =
V. F. k = ; q =

Positions at the usual hours of observation, September 24, 25, 26, 27, 28 and 29.

24	0	0	0	45·6	82·5	58	56·6	64
	1	0	0	45·6	85·0		58·3	
	2	0	0	45·5	86·0	56	58·1	61
	3	0	0	44·9	86·8		58·0	
	4	0	0	44·6	86·4	57	58·8	61
	5	0	0	44·1	85·9		58·2	
	6	0	0	47·4	85·6	58	57·9	61
	7	0	0	50·0	83·4		57·3	
	8	0	0	49·1	81·1	58	57·3	60
	9	0	0	47·0	80·0		55·6	
	10	0	0	45·1	76·9	59	56·3	61
	11	0	0	44·4	71·5		53·4	
	12	0	0	46·4	65·4	62	51·8	65
	13	0	0	47·0	61·1		52·1	
	14	0	0	49·5	61·1	63	53·7	65
	15	0	0	51·2	57·8		53·8	
	16	0	0	52·7	57·7	63	55·6	65
	17	0	0	50·3	57·6		56·9	
	18	0	0	46·6	60·4	62	58·7	64
	19	0	0	50·3	60·5		57·4	
	20	0	0	49·5	61·3	62	58·7	63
	21	0	0	42·8	63·3		61·8	
	22	0	0	37·9	61·8	60	60·3	63
	23	0	0	36·3	61·0		61·1	
25	0	0	0[c]	38·5	72·4	59	61·2	63
26	1	0	0	44·1	71·8	57	59·9	
	2	0	0	45·0	70·0	58	57·4	62

[a] 25^{d}. 3^{h}., to 26^{d}. 2^{h}., fell on Sunday at Van Diemen Island; the observation at 26^{d}. 3^{h}. was missed.

[b] "Calm. Clear, bright moonlight; no appearance of Aurora from the hill near the Observatory."

[c] 25^{d}. 1^{h}., to 26^{d}. 0^{h}., fell on Sunday at the Bay of Islands.

SEPTEMBER 24, 25, 26, 27, 28, and 29, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
26	3	0	0	44·8	75·0	60	58·6	
	4	0	0	47·4	74·7	60	59·4	63
	5	0	0	46·5	70·6	59	58·6	
	6	0	0	46·0	72·3	59	59·2	62
	7	0	0	47·0	71·6	58	59·2	
	8	0	0	46·5	74·6	58	59·9	60
	9	0	0	45·9	76·7	58	60·7	
	10	0	0	43·9	72·1	59	59·2	60
	11	0	0	42·9	70·6	60	58·4	
	12	0	0	44·5	71·7	61	58·0	63
	13	0	0	46·6	62·2	62	54·7	
	14	0	0	47·8	61·7	66	52·7	70
	15	0	0	50·3	60·5	67	54·9	
	16	0	0	51·3	59·5	67	54·6	69
	17	0	0	50·9	61·1	66	56·3	
	18	0	0	50·9	63·5	65	57·5	66
	19	0	0	47·9	62·5	63	57·6	
	20	0	0	46·9	65·2	62	60·4	63
	21	0	0	43·0	62·4	62	58·7	
	22	0	0	44·1	64·6	61	58·7	64
	23	0	0	38·6	76·6	61	63·9	
27	0	0	0	44·0	67·5	61	56·3	66
	1	0	0	44·2	70·1	60	58·1	
	2	0	0	40·3	70·6	60	56·9	63
	3	0	0	47·1	69·9	61	54·8	
	4	0	0	46·7	69·3	61	56·1	66
	5	0	0	46·9	74·1	60	59·6	
	6	0	0	46·2	70·4	59	58·7	61
	7	0	0	45·5	72·9	59	60·1	
	8	0	0	48·4	68·5	59	57·3	60
	9	0	0	47·3	71·5	59	58·6	
	10	0	0	44·5	69·7	59	57·3	61
	11	0	0	45·3	69·2	60	57·1	
	12	0	0	47·7	67·3	61	56·3	62
	13	0	0	49·1	66·7	63	54·2	
	14	0	0	49·8	66·3	64	54·8	67
	15	0	0	50·5	65·6	66	53·3	
	16	0	0	51·2	65·9	66	54·1	69
	17	0	0	50·6	63·3	66	54·3	
	18	0	0	50·4	60·5	65	55·2	67
	19	0	0	47·0	64·8	64	58·1	
	20	0	0	49·0	68·5	62	59·4	64
	21	0	0	46·9	71·0	62	60·0	
	22	0	0	46·7	74·1	61	61·4	63

SEPTEMBER 24, 25, 26, 27, 28, and 29, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
27	23	0	0	45·5	74·2	60	60·6	
28	0	0	0	47·9	77·0	60	60·3	61
	1	0	0	45·8	73·3		58·5	
	2	0	0	44·8	73·5	59	57·8	60
	3	0	0	45·2	72·9		55·3	
	4	0	0	49·0	74·9	60	58·0	62
	5	0	0	47·0	73·6		58·5	
	6	0	0	47·1	73·2	60	58·4	62
	7	0	0	47·1	73·9		58·5	
	8	0	0	45·2	74·1	59	57·9	62
	9	0	0	42·7	76·1		58·8	
	10	0	0	42·8	74·8	61	58·5	63
	11	0	0	43·1	73·0		58·0	
	12	0	0	45·0	70·4	63	56·7	64
	13	0	0	48·5	66·8		54·4	
	14	0	0	49·9	63·2	68	53·9	69
	15	0	0	49·9	63·1		53·8	
	16	0	0	49·8	61·9	71	53·9	71
	17	0	0	50·3	59·9		52·8	
	18	0	0	49·9	58·8	70	53·4	72
	19	0	0	47·2	53·6		54·6	
	20	0	0	48·9	59·0	66	56·4	70
	21	0	0	47·8	61·6		57·6	
	22	0	0	47·1	68·5	63	58·7	64
	23	0	0	44·3	70·8		57·4	
29	0	0	0	46·0	71·5	59	55·9	63
	1	0	0	48·9	75·3		57·5	
	2	0	0	47·4	76·4	57	58·0	59
	3	0	0	47·2	84·2		59·0	
	4	0	0	44·3	84·7	56	58·7	59
	5	0	0	44·6	80·6		57·5	
	6	0	0	47·6	78·5	55	58·1	58
	7	0	0	48·1	80·0		59·2	
	8	0	0	46·7	82·3	54	60·9	58
	9	0	0	44·4	82·9		60·7	
	10	0	0	43·8	79·0	56	59·7	58
	11	0	0	45·0	73·6		56·5	
	12	0	0	46·2	74·4	60	55·9	60
	13	0	0	48·6	72·3		54·0	
	14	0	0	51·2	71·4	64	54·8	64
	15	0	0	51·6	61·8		53·4	
	16	0	0	51·2	63·0	66	53·9	67
	17	0	0	50·8	63·2		53·2	
	18	0	0	49·2	62·7	65	55·3	66

SEPTEMBER 24, 25, 26, 27, 28, and 29, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
29	19	0	0	49·5	64·1		57·6	
	20	0	0	46·6	69·3	63	59·8	64
	21	0	0	45·8	71·1		58·8	
	22	0	0	47·7	70·2	62	58·7	64
	23	0	0	47·5	70·7		58·1	

The Mean Positions at the same hours during the Month are given in page 74.

OCTOBER 8 and 9, 1841.

TORONTO* { Decl. 1 Scale Division = 0′·72 ; H. F. k = ·000076 ; q = ·0002 ; V. F. k = ·000092 ; q = ·00018

Extra observations.

The V. F. was observed at 1^m. 30^s. before, and the H. F. 2^m. after the times specified.

9	13	20	0[a]	141·3	394·8	59	60·3	
		25	0	141·4	390·8		59·5	
		35	0	159·9	405·5			
		40	0	155·6	427·8			
		45	0	136·6	420·4			
		50	0	128·0	405·9			
		55	0	129·6	396·3			
	14	0	0	138·6	397·1	59		
		5	0	142·4	392·5			
		10	0	152·7	403·8		55·5	59
		15	0	154·9	424·5		54·5	
		20	0	155·8	417·7		54·0	
		25	0	145·3	421·8			
		30	0	140·4	409·1		47·0	
		35	0	145·2	420·7		50·1	
		40	0	142·9	418·9		48·7	
		45	0	138·7	419·6		47·0	
		50	0	132·8	410·8		46·9	
		55	0	138·1	401·0		48·1	
	15	0	0	141·7	401·5	59	50·3	60
		5	0	147·1	408·1		50·8	
		10	0	145·6	409·9		50·8	
		15	0	147·5	413·4		50·4	
		20	0	148·5	420·1		51·2	
		25	0	143·6	421·5		49·8	

* TORONTO, October, 1841.—*Times of observation at which the Magnets were disturbed, but the mean readings were not materially changed.*

d.	h.	
Sept. 30	22	Decl. and H. F. disturbed, much vibration.
Oct. 2	0	Decl. and H. F. disturbed, moderate vibration.
	2	H. F. disturbed, much vibration and shocks.
	4 0	H. F. slight vibration.
	2	Decl. and H. F. slight shocks.
	5 0	H. F. moderate vibrations.
	2	Decl. and H. F. slight shocks.
	9 0 & 2	H. F. moderate vibrations and shocks ; Decl. slight shocks at 2^h.
	4	H. F. moderate vibrations and shocks ; Decl. slight shocks at 2^h.
	11 12	H. F. slight shocks.
	14	Decl. and H. F. moderate shocks.
	22	H. F. slight vibrations and shocks.
	12 6	H. F. considerable vibrations and shocks.
	13 0	H. F. moderate vibrations and shocks.
	2	Decl. and H. F. moderate shocks.
	14 0 & 2	Decl. and H. F. slight shocks.
	15 22	H. F. and V. F. slight vibrations.
	16 2	H. F. much vibration.
	4	H. F. much vibration ; Decl. moderate shocks.
	8	H. F. moderate vibrations.
	12 & 14	H. F. moderate vibrations and shocks.
	16	H. F. moderate vibrations ; Decl. moderate shocks.
	17 18	H. F. slight vibrations.
	18 0 & 2	Decl. and H. F. moderate shocks.
Oct. 18	8	H. F. moderate shocks.
	18	H. F. moderate vibrations.
	22	Decl. and H. F. vibrating much.
	19 0	Decl. and H. F. slight vibrations and shocks.
	2	Decl. moderate shocks ; H. F. moderate vibrations and shocks.
	4 & 6	Decl. and H. F. moderate shocks.
	8	H. F. slight shocks.
	25 0	H. F. strong shocks.
	26 2	Decl. and H. F. moderate shocks.
	10	H. F. moderate vibrations.
	27 22	H. F. slight vibrations.
	28 2	Decl. and H. F. strong shocks, and slight vibrations.

d.	h.	m.	
[a] 9	13	30	Aurora brilliant ; very bright streamers shooting up to an altitude of 40°., and appearing to travel with great rapidity from W. to E. ; streamers gradually dying away, and at 13^h. 50^m., no further appearance of Aurora, except a very faint light in N. Bank of strati rising in W.
	14	10	Bank of light growing brighter ; two or three very faint streamers.
		15	Auroral light very faint ; clouds clearing away.
		25	Three faint streamers rose in N.E., and progressed slowly to Westward, dying away when due North. No light remained visible.
		30	No traces of the Aurora left.
		40	No auroral light.
		45	Two faint streamers (scarcely visible) in N.N.E.
		55	No auroral light.

October 8 and 9, 1841.

Positions at the usual hours of observation, October 8 and 9.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
8	0	0	0	141·4	443·4	55	53·2	56
	2	0	0	141·3	447·1	55	54·1	56
	4	0	0	140·4	420·4	57	51·8	56
	6	0	0	137·7	400·0	57	55·4	57
	8	0	0	131·0	410·0	59	60·2	58
	10	0	0	127·4	406·2	60	58·0	59
	12	0	0	143·7	399·1	61	61·0	59
	14	0	0	143·4	421·5	59	52·4	59
	16	0	0	135·5	416·9	59	52·2	59
	18	0	0	137·8	417·1	57	54·0	58
	20	0	0	134·8	420·5	56	54·0	58
	22	0	0	139·5	431·0	55	55·8	56
9	0	0	0	140·0	438·7	55	55·8	56
	2	0	0	141·5	432·0	55	58·1	56
	4	0	0	138·8	417·5	57	54·9	57
	6	0	0	131·5	409·1	58	53·6	57
	8	0	0	132·8	433·5	59	56·2	58
	10	0	0	143·0	398·5	60	57·1	59
	12	0	0	135·7	402·2	59	61·0	58
	14	0	0	138·6	397·1	59	55·5	60
	16	0	0[a]	139·9	410·0	58	52·5	59

Mean Positions at the same hours during the Month.

0	0	0	138·2	442·4	52	56·9	53
2	0	0	140·4	436·3	52	58·3	53
4	0	0	138·6	427·3	53	57·3	53
6	0	0	131·2	421·4	54	57·5	54
8	0	0	130·5	430·4	55	57·9	55
10	0	0	134·1	434·6	56	57·4	56
12	0	0	137·6	433·6	56	57·1	56
14	0	0	139·7	432·4	55	56·9	56
16	0	0	139·8	432·1	55	56·5	55
18	0	0	138·7	432·1	53	54·9	54
20	0	0	139·7	438·8	53	53·9	54
22	0	0	139·7	441·5	52	55·5	53

St. Helena { Decl. 1 Scale Division = 0′·71; H. F. k = ·00019; q = ·00025; V. F.[b]

Extra observations.

The H. F. was observed at 2^m. 30^s. after the times specified.

8	8	5	0	20·5	38·0	62		
		10	0	20·6	38·0			
		15	0	20·7	38·0			
		20	0	20·7	37·9			
		25	0	20·8	37·9			
		30	0	20·9	37·8			
		35	0	20·8	37·4			
		40	0	21·0	37·9			
		45	0	21·1	38·2			
		50	0	21·6	38·4			
		55	0	21·8	39·0			
	9	0	0	22·4	40·0	63		
		5	0	22·7	40·4			
		10	0	22·9	41·1			
		15	0	22·9	41·2			

October 8 and 9, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
8	9	20	0	22·9	41·2			
		25	0	22·9	41·2			
		30	0	23·0				
		35	0	23·1	41·1			
		40	0	23·3	40·4			
		45	0	23·2	40·0			
		50	0	23·1	39·0			
		55	0	23·0	38·1			
	10	0	0	23·0	38·0	63		
		5	0	23·0	38·0			
		10	0	23·0	38·9			
		15	0	23·1	39·0			
		20	0	23·2	40·0			
		25	0	23·9	40·9			
		30	0	24·0	41·0			
		35	0	24·0	42·0			
		40	0	24·0	42·0			
		45	0	24·0	42·0			
		50	0	23·9	42·0			
		55	0	23·2	42·1			

Positions at the usual hours of observation, October 8 and 9.

8	0	0	0	25·7	62·9	61		
	2	0	0	26·9	56·9	62		
	3	0	0	25·2	55·9	64		
	4	0	0	24·0	55·0	63		
	5	0	0	23·0	51·0	64		
	6	0	0	21·6	44·6	63		
	8	0	0	20·6	38·0	62		
	10	0	0	23·0	38·0	63		
	11	0	0	23·0	43·0	63		
	12	0	0	22·1	45·5	62		
	13	0	0	21·7	44·0	62		
	14	0	0	22·9	47·2	61		
	15	0	0	22·2	47·2	61		
	16	0	0	22·4	48·7	61		
	19	30	0	22·9	52·0	60		
	20	0	0	22·0	52·7	61		
	20	30	0	21·2	53·4	61		
	22	0	0	22·0	57·9	61		
	23	0	0	23·3	57·4	61		
9	0	0	0	24·6	57·6	62		
	2	0	0	25·1	55·1	63		
	3	0	0	26·3	54·4	63		
	4	0	0	24·0	53·9	63		
	5	0	0	24·0	51·8	63		
	6	0	0	23·0	51·5	65		
	8	0	0	24·0	51·1	65		
	10	0	0	26·0	52·2	62		
	11	0	0	23·4	47·3	62		
	12	0	0	25·7	46·7	62		
	13	0	0[c]	23·1	49·3	62		

Mean Positions at the same hours during the Month.

0	0	0	22·3	61·8	61		
2	0	0	23·9	59·0	62		
3	0	0	22·9	57·2	63		

October 8 and 9, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther.	Sc.-Div^{ns}.	Ther. °
	4	0	0	21·2	56·1	63		
	5	0	0	20·3	53·7	63		
	6	0	0	20·5	52·7	63		
	8	0	0	21·6	51·0	62		
	10	0	0	22·3	52·0	62		
	11	0	0	22·5	52·0	62		
	12	0	0	22·5	53·1	61		
	13	0	0	22·2	54·2	61		
	14	0	0	21·7	54·6	61		
	15	0	0	21·7	55·0	61		
	16	0	0	21·6	55·5	61		
	18	0	0	21·6	55·7	61		
	19	30	0	20·8	55·5	61		
	20	0	0	20·1	56·1	61		
	20	30	0	19·5	55·7	61		
	22	0	0	19·7	60·0	61		
	23	0	0	21·4	57·3	61		

Cape of Good Hope { Decl. 1 Scale Division = 0′·75; H. F. k = ·000180; q = ·0003; V. F.[d]

Positions at the usual hours of observation, October 8 and 9.

8	0	0	0	55·5	67·0	62		
	1	0	0	56·9	65·7	62		
	2	0	0	56·5	65·9	62		
	3	0	0	55·1	67·0	63		
	4	0	0	54·5	65·4	63		
	5	0	0	52·5	60·9	63		
	6	0	0	52·2	53·7	63		
	7	0	0	48·0	52·0	63		
	8	0	0	46·5	52·0	63		
	9	0	0	49·0	54·0	63		
	10	0	0	50·4	52·3	62		
	11	0	0	50·4	60·0	62		
	12	0	0	50·5	63·0	62		
	13	0	0	49·0	62·2	62		
	14	0	0	51·8	61·9	62		
	15	0	0	50·0	61·0	62		
	16	0	0	50·4	61·2	62		
	17	0	0	50·0	63·5	62		
	18	0	0	50·4	65·9	62		
	19	0	0	49·2	66·8	62		
	20	0	0	49·1	66·3	61		
	21	0	0	50·8	66·0	61		
	22	0	0	52·9	68·0	61		
	23	0	0	53·5	66·4	61		
9	0	0	0	54·9	67·2	61		
	1	0	0	55·1	67·0	61		
	2	0	0	55·0	66·7	61		
	3	0	0	55·5	66·3	61		
	4	0	0	52·8	65·2	61		
	5	0	0	53·2	63·5	61		
	6	0	0	53·2	63·6	61		
	7	0	0	52·0	66·4	61		
	8	0	0	53·2	66·0	61		
	9	0	0	52·9	65·5	61		
	10	0	0	56·0	69·0	61		
	11	0	0[e]	51·0	65·3	61		

[a] Saturday midnight at Toronto.
[b] V. F. magnet not in adjustment.
[c] Saturday midnight at St. Helena.
[d] V. F. magnet not in satisfactory adjustment.
[e] Saturday midnight at the Cape of Good Hope.

October 8 and 9, 1841.

Mean Positions at the same hours during the Month.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
	0	0	0	54·1	69·5	60		
	1	0	0	55·3	68·8	61		
	2	0	0	55·6	68·3	61		
	3	0	0	54·6	68·0	61		
	4	0	0	53·6	67·7	61		
	5	0	0	52·7	65·4	61		
	6	0	0	52·3	64·7	61		
	7	0	0	52·5	64·9	61		
	8	0	0	52·2	65·7	61		
	9	0	0	52·8	66·9	62		
	10	0	0	52·9	67·9	61		
	11	0	0	52·7	68·4	61		
	12	0	0	53·2	70·2	60		
	13	0	0	53·2	70·9	60		
	14	0	0	53·2	71·5	60		
	15	0	0	52·4	72·0	60		
	16	0	0	52·2	72·2	60		
	17	0	0	51·7	72·6	60		
	18	0	0	51·1	73·5	60		
	19	0	0	49·7	74·3	60		
	20	0	0	48·8	74·1	60		
	21	0	0	48·5	72·3	60		
	22	0	0	49·7	71·3	60		
	23	0	0	52·0	70·4	60		

Van Diemen Island — Decl. 1 Scale Division = 0′·71; H. F. k = ·0003; q =; V. F. k = ; q =

Extra observations.

The V. F. was observed at 2^m. 30^s. before, and the H. F. 2^m. 30^s. after the times specified.

8	5	10	0	62·4	59·3	50		
		15	0	62·1			51·4	50
		20	0	62·2	60·0			
		25	0	59·3				
		30	0	57·2	60·6		51·2	
		35	0	56·7				
	6	10	0	47·3	60·9	50		
		15	0	49·2				
		20	0	50·5	57·2		43·5	50
		25	0	54·9				
		30	0	59·3	55·6		50·2	
		35	0	61·4				
		40	0	62·1	56·3		54·9	
		45	0	64·0				
		50	0	64·8	57·2		53·7	
		55	0	62·5				
	7	10	0	59·9	53·3	51		
		15	0	60·0				
		20	0	60·4	51·5		54·9	51
		25	0	60·0				
		30	0	63·0	51·0		56·7	
		35	0	65·1				
		40	0	65·9	50·0		57·4	
		45	0	64·6				
		50	0	65·0			56·3	
	8	10	0	61·6	50·0	51		
		15	0	60·1				

October 8 and 9, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
8	8	20	0	59·5	49·8		53·3	51
		25	0	58·9				
		30	0	58·5			52·8	

Positions at the usual hours of observation, October 8 and 9.

8	0	0	0	57·8	54·0	53	54·1	53
	1	0	0	58·3	54·2		54·9	
	2	0	0	56·8	55·8	52	55·9	51
	3	0	0	57·7	55·6		56·0	
	4	0	0	54·6	56·1	51	55·1	51
	5	0	0	66·0	60·7		53·9	
	6	0	0	48·9	62·3	50	41·3	50
	7	0	0	62·2	55·1		50·7	
	8	0	0	63·9	49·9	51	56·2	51
	9	0	0	58·2	50·7		52·8	
	10	0	0	60·6	54·9	50	52·0	50
	11	0	0	55·6	50·2		55·3	
	12	0	0	61·6	48·2	51	57·4	53
	13	0	0	59·5	46·2		52·3	
	14	0	0	58·4	47·5	56	48·7	56
	15	0	0	60·2	48·8		44·1	
	16	0	0	62·6	47·9	60	44·3	58
	17	0	0	64·0	47·1		44·0	
	18	0	0	63·9	48·1	62	42·9	60
	19	0	0	64·2	49·6		42·4	
	20	0	0	62·0	47·7	63	44·0	61
	21	0	0	60·5	48·9		42·2	
	22	0	0	59·0	49·5	62	42·0	60
	23	0	0	58·6	49·6		44·4	
9	0	0	0	56·9	50·7	61	41·9	61
	1	0	0	57·6	50·5		45·6	
	2	0	0[a]	58·8	50·9	60	46·5	59

Mean Positions at the same hours during the Month.

	0	0	0	58·3	52·2	59	45·8	58
	1	0	0	57·2	52·1		47·1	
	2	0	0	57·2	52·8	58	47·0	57
	3	0	0	57·1	52·7		46·5	
	4	0	0	58·4	53·0	56	49·7	55
	5	0	0	59·6	54·1		49·9	
	6	0	0	58·4	55·0	54	49·7	53
	7	0	0	59·4	54·8		50·9	
	8	0	0	59·4	54·6	54	52·4	53
	9	0	0	57·5	54·8		51·7	
	10	0	0	56·0	54·6	53	51·6	53
	11	0	0	53·7	53·4		51·1	
	12	0	0	53·7	51·5	55	50·2	55
	13	0	0	55·7	49·5		49·9	
	14	0	0	59·4	48·7	58	48·6	57
	15	0	0	64·0	49·0		46·7	
	16	0	0	67·3	50·0	61	45·0	59
	17	0	0	68·5	50·9		44·0	
	18	0	0	68·0	51·3	62	43·8	60
	19	0	0	66·6	50·8		44·7	
	20	0	0	64·3	50·3	63	44·7	60
	21	0	0	62·0	50·1		45·3	
	22	0	0	60·6	50·8	61	45·0	59
	23	0	0	59·2	51·7		45·5	

[a] Saturday midnight at Van Diemen Island.

October 8 and 9, 1841.

Antarctic Expedition at the Bay of Islands, New Zealand.

Decl. 1 Scale Division = 0′·73
H. F. k = ·00018; q =
V. F. k = ; q =

Positions at the usual hours of observation, October 8 and 9.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
8	0	0	0	45·0	73·5	60	58·0	60
	1	0	0	45·4	77·7		56·3	
	2	0	0	44·9	79·9	57	60·4	59
	3	0	0	44·1	81·2		59·7	
	4	0	0	44·8	84·2	55	62·1	56
	5	0	0	48·6	88·6		61·3	
	6	0	0	48·9	94·3	53	63·3	55
	7	0	0	51·9	86·3		59·6	
	8	0	0	47·3	83·3	53	58·6	55
	9	0	0	44·5	80·5		59·0	
	10	0	0	43·6	74·8	60	56·8	58
	11	0	0	43·6	63·7		53·1	
	12	0	0	46·5	55·9	69	50·0	68
	13	0	0	48·0	51·9		50·5	
	14	0	0	47·7	51·9	73	52·0	72
	15	0	0	49·2	51·0		52·5	
	16	0	0	49·3	49·6	75	52·6	75
	17	0	0	49·7	48·9		52·3	
	18	0	0	49·7	49·5	77	52·6	78
	19	0	0	49·5	52·5		53·5	
	20	0	0	51·7	56·2	72	56·4	72
	21	0	0	49·9	62·5		57·7	
	22	0	0	48·2	65·4	65	58·9	67
	23	0	0	47·7	69·5		59·5	
9	0	0	0[b]	47·6	71·6	61	59·7	63

Mean Positions at the same hours from the 1st to 22nd inclusive.

	0	0	0	46·8	67·2	64	59·4	65
	1	0	0	46·2	69·5		59·2	
	2	0	0	46·3	71·0	62	59·3	64
	3	0	0	46·1	71·1		58·5	
	4	0	0	47·1	71·7	61	58·9	63
	5	0	0	47·4	73·2		59·3	
	6	0	0	47·5	74·9	60	59·5	62
	7	0	0	46·8	75·3		59·4	
	8	0	0	45·1	75·0	59	59·2	61
	9	0	0	43·3	72·8		58·8	
	10	0	0	42·8	68·1	64	56·8	64
	11	0	0	43·2	62·7		54·4	
	12	0	0	45·6	58·8	69	53·0	70
	13	0	0	48·5	57·2		52·8	
	14	0	0	50·7	56·1	72	52·5	72
	15	0	0	51·4	55·9		52·5	
	16	0	0	51·2	55·7	73	53·3	74
	17	0	0	50·3	55·5		53·9	
	18	0	0	49·6	55·3	73	54·3	74
	19	0	0	48·8	55·7		55·0	
	20	0	0	49·0	58·1	69	56·6	70
	21	0	0	47·8	60·8		57·7	
	22	0	0	47·3	63·1	66	58·2	67
	23	0	0	47·1	65·0		58·9	

[b] Saturday midnight at New Zealand.

October 24, 25, and 26, 1841.

Toronto { Decl. 1 Scale Division = ·0′·72
H. F. k = ·000076; q = ·0002
V. F. k = ·000092; q = ·00018

Regular and extra observations.

The V. F. was observed at 1m. 30s. before, and the H. F. 2m. after the times specified. [a]

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
24	18	0	0 [b]	150·7	409·7	44	54·9	45
		30	0	95·3	361·7		35·4	
		35	0	82·9	328·5		27·4	
		40	0	83·0	280·0		16·3	
		45	0	92·4	306·7		7·3	
		50	0	97·5	335·0		9·4	
		55	0	96·2	346·6		10·4	
	19	0	0	103·2	363·7	44	14·2	46
		5	0	117·2	374·5		22·7	
		10	0	122·1	373·0		25·2	
		15	0	127·4	378·7		31·3	
		20	0	134·7	388·2		37·7	
		25	0	140·7	393·6		38·4	
		30	0	145·1	389·2		38·4	
		35	0	152·5	393·9		37·7	
		40	0	159·3	390·0		37·1	
		45	0	166·6	399·1		36·4	
		50	0	172·9	412·0		35·9	
		55	0	171·9	414·4		33·5	
	20	0	0	167·0	427·1	44	32·9	46
		5	0	161·4	424·5		33·6	
		10	0	153·6	406·6		34·5	
		15	0	146·4	394·2		33·5	
		20	0	142·8	387·2		35·5	
		25	0	143·0	383·1		36·6	
		30	0	146·7	404·2		37·8	
		35	0	151·9	422·2		40·2	
		40	0	154·3	418·4		42·4	
		45	0	156·8	405·4		39·9	
		50	0	158·1	398·0		35·3	
		55	0	162·6	387·2		30·3	
	21	0	0	165·3	392·6	44	29·7	46
		5	0	161·9	392·0		32·2	
		10	0	155·2	402·5		34·9	
		15	0	155·1	405·5		33·2	
		20	0	160·4	414·0		32·3	
		25	0	162·1	429·2		34·7	
		30	0	161·0	440·5		36·7	

October 24, 25, and 26, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther.
24	21	35	0	157·6	442·0		43·6	
		40	0	155·4	454·0		46·4	
		45	0	149·1	438·5		48·9	
		50	0	150·0	429·5		44·6	
		55	0	153·1	438·0		42·6	
	22	0	0	156·5	451·0	44	42·7	46
		5	0	154·0	453·9		43·8	
		10	0	154·5	451·0		41·3	
		15	0	155·2	442·3		39·7	
		20	0	157·8	444·7		38·3	
		25	0	159·8	441·3		44·1	
		30	0	160·1	445·5		48·5	
		35	0	158·1	450·4		53·4	
		40	0	149·9	453·7		57·8	
		45	0	138·4	454·2		60·5	
		50	0	131·8	446·7		60·3	
		55	0	127·2	440·3		58·0	
	23	0	0	127·9	437·5	44	50·4	46
		5	0	133·0	453·9		53·8	
		10	0	133·7	458·0		54·3	
		15	0	133·1	445·7		54·2	
		20	0	133·8	444·1		50·7	
		25	0	136·8	454·5		50·9	
		30	0	138·9	459·9		53·0	
		35	0	138·6	456·5		52·9	
		40	0	138·5	450·5		52·3	
25	0	0	0	127·9	445·9	44	54·2	46
	2	0	0	122·6	412·1	44	52·1	46
		20	0	127·4	422·9		59·7	
		25	0	122·8	412·4		57·4	
		30	0	123·7	393·7		57·8	
		35	0	124·1	387·4		57·7	
		40	0	123·7	401·2		60·7	
		45	0	121·8	388·0		61·1	
		50	0	120·5	380·0		60·8	
		55	0	118·8	396·8		61·4	
	3	0	0	117·0	418·0	46	62·9	46
		5	0	120·8	438·3		65·5	
		10	0	121·0	448·4		67·6	
		15	0	116·9	433·1		67·9	
		20	0	123·6	435·8		67·5	
		25	0	129·4	450·5		68·3	
		30	0	129·3	451·8		69·4	
		35	0	132·3	459·3		69·4	
		40	0	135·1	465·3		69·5	
		45	0	136·4	466·1		69·5	

October 24, 25, and 26, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
25	3	50	0	137·5	456·7		68·4	
		55	0	144·1	457·3		67·3	
	4	0	0	141·1	436·1	47	66·5	47
		5	0	138·9	433·3		65·6	
		10	0	136·9	429·6		66·6	
		15	0	136·8	418·1		65·5	
		20	0	133·4	415·3		66·5	
		25	0	130·7	411·3		66·2	
		30	0	127·5	423·3		66·7	
		35	0	130·4	418·2		67·2	
		40	0	130·1	424·3		66·8	
		45	0	129·2	426·7		70·2	
		50	0	129·0	427·7		73·7	
		55	0	130·4	429·1		73·7	
	5	0	0	120·7	436·2	48	73·4	47
		5	0	126·8	433·3		69·5	
		10	0	120·7	428·4		67·0	
		15	0	122·8	437·0		73·3	
		20	0	121·1	429·2		73·5	
		25	0	124·4	429·0		67·4	
		30	0	129·2	443·8		73·5	
		35	0	127·1	441·3		73·4	
		40	0	129·5			73·8	
		45	0	128·7	447·9		73·2	
		50	0	131·7	438·5		72·5	
		55	0	129·0	423·8		69·2	
	6	0	0	125·2	426·3	48	73·5	48
		5	0	124·3	433·1		69·3	
		10	0	126·5	426·1		69·9	
		15	0	126·9	429·2		66·2	
		20	0	132·5	424·1		72·9	
		25	0	134·2	438·7		69·5	
		30	0	133·6	413·7		69·5	
		35	0	132·3	402·7		73·9	
		40	0	132·0	398·7		73·5	
		8	0	122·9	433·2	48	74·5	48
		10	0	127·7	423·2	48	73·8	48
		12	0	136·4	435·7	47	70·7	48
		14	0	148·0	440·0	47	68·6	48
		16	0	146·3	439·0	46	69·1	48
		18	0	135·1	437·7	46	56·2	47
		20	0	135·9	442·7	47	49·3	47
		22	0	141·3	424·5	47	52·1	47
	26	0	0	125·7	417·6	46	52·0	47
		2	0	131·6	450·2	46	61·2	47
		4	0	133·9	446·5	48	67·4	47

[a] Commencing immediately after Sunday midnight, at Toronto.

[b]
d.	h.	m.	
24	18	0	Faint arch of auroral light in N. At 18h. 15m., Aurora very brilliant; very bright patches, surrounded by a magnificent arch in the N.E., and a large number of streamers, reaching an altitude of 40°. to 60°.
		30	Aurora much the same.
		35	The streamers and patches that rose about N.E., have progressed to the windward, dying away in N.W. H. F. vibrating very much.
		45	Arch broken up into a number of patches and banks, intermixed with a great number of streamers; the whole very beautiful. Calm and clear, light cirri in W. disappeared.
	19	0	Calm and clear. Slight pulsations in N.W. Streamers as high as 60°; banks very bright.
		10	Calm and clear. Aurora growing fainter; streamers just visible.
		20	Patches and streamers still fainter.
		35	Faint patches only visible.
		45	Ditto ditto.
	20	0	Calm and clear. Bank and streamers in N.W.; nothing to E. of N. but faint light.
		15	Bright bank under an arch; arch extending 20° on each side of N.; no streamers.
		20	Bank formed like an arch, bright streamers issuing from it; altitude 60°.
		30	Arch broken up, very bright bank extending 35° on each side of N., altitude 20°.
		40	No alteration.
		50	Bank again assuming the form of an arch, and more contracted, very bright in centre.
	21	5	Calm and clear. Two very bright arches, altitude of upper 40°; lower 20°; lower arch the brightest; streamers from both.
		15	Arches extending to N.W., a few streamers only visible.
		25	Arches clear and well formed; bright banks and a great number of streamers extending from N.E. to N.W.; light now brighter, and streamers more brilliant than at any other time during the night.
		35	Upper arch disappeared; lower arch more faint, extending from N.W. to N.E.; altitude of centre 20°; bright streamers rising from centre of arch.
		45	Arch visible but fainter; streamers have disappeared; bright bank inside of arch, reaching down to the horizon.
		55	Arch still fainter; a few streamers in centre, and at the N.W. extremity.
	22	5	Faint arch; a few streamers from the centre, and patches under the arch.
		15	Arch disappearing; a few bright streamers from the centre.
		25	Only a faint irregular light at present, in form of banks and patches.
		50	Bank brightened up with streamers at both extremities; at 22h. 45m. a faint arch, and at 55m. a faint undefined light alone remained of the Aurora.
	23	0	Auroral light scarcely perceptible.
		15	All traces of Aurora have disappeared.

October 24, 25, and 26, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
	6	0	0	129·6	430·9	49	68·8	48
	8	0	0	134·1	438·4	50	67·7	49
	10	0	0	141·7	445·4	51	66·6	50
	12	0	0	139·0	440·9	51	64·0	51
	14	0	0	146·1	443·0	51	60·6	51
	16	0	0	138·8	442·2	51	62·5	50
	18	0	0	135·8	445·3	51	59·5	51
	20	0	0	133·3	444·4	50	57·1	50
	22	0	0	134·6	439·5	49	60·4	50

Positions at the usual hours of observation during the Month are given in page 89.

St. Helena { Decl. 1 Scale Division = 0′·71; H. F. k = ·00019; q = ·00025; V. F.[a] k = ·00046; q =

Regular and extra observations.

The V. F. was observed at 2^m. 30^s. before, and the H. F. 2^m. 30^s. after the times specified.

24	14	0	0[b]	18·6	59·6	62	45·4	61
	15	0	0	18·0	59·2	62	46·0	61
	16	0	0	18·3	62·4	62	45·8	61
	18	0	0	15·2	58·0	61	45·8	61
	19	0	0	13·9	55·0	61	45·8	60
		5	0	14·0				
		10	0	13·9	56·0		45·8	
		15	0	13·4				
		20	0	13·1	57·0		47·9	
		25	0	13·1				
		30	0	13·1	57·1		47·9	
		35	0	13·1				
		40	0	13·2	57·8		48·1	
		45	0	13·1				
		50	0	13·7	57·2		48·2	
		55	0	13·8				
	20	0	0	14·0	57·0	61	48·2	61
		5	0	14·0				
		10	0	14·0	56·2		48·2	
		15	0	14·0				
		20	0	13·2	55·5		48·2	
		25	0	13·0				
		30	0	12·9	55·2		48·2	
		35	0	12·9				
		40	0	12·9	55·0		48·1	
		45	0	12·3				
		50	0	12·0	55·0		48·0	
		55	0	12·0				
	21	0	0	12·0	53·5	61	48·2	61
		5	0	12·0				
		10	0	12·3	52·2		48·2	
		15	0	12·0				
		20	0	12·6	52·0		48·3	
		25	0	13·0				
		30	0	13·5	51·2		48·4	
		35	0	13·9				
		40	0	14·0	52·5		48·4	
		45	0	14·8				
		50	0	14·9	53·7		48·5	
		55	0	14·0				
	22	0	0	13·9	52·0	61	48·3	61
		5	0	13·9				

October 24, 25, and 26, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
24	22	10	0	14·1	51·0		48·3	
		15	0	14·9				
		20	0	14·4	50·9		48·7	
		25	0	14·2				
		30	0	13·9	53·0		49·2	
		35	0	14·0				
		40	0	14·2	53·7		49·3	
		45	0	15·0				
		50	0	15·5	50·0.		49·4	
		55	0	16·1				
	23	0	0	16·7	52·0	62	49·8	62
		5	0	16·0				
		10	0	15·9	51·0		49·8	
		15	0	15·8				
		20	0	16·1	51·0		50·1	
		25	0	15·8				
		30	0	15·6	51 8		50·1	
		35	0	15·4				
		40	0	15·2	50·4		50·1	
		45	0	14·9				
		50	0	15·4	49·7		50·1	
		55	0	16·0				
25	0	0	0	16·8	50·2	63	50·6	63
		5	0	17·4				
		10	0	17·3	50·0		50·7	
		15	0	16·8				
		20	0	16·8	50·6		51·2	
		25	0	17·6				
		30	0	18·0	51·0		51·7	
		35	0	19·1				
		40	0	20·2	51·9		52·1	
		45	0	21·0				
		50	0	21·4	50·1		52·4	
		55	0	20·4				
	1	0	0	20·0	47·0	64	52·6	64
		5	0	19·8				
		10	0	19·0	43·4		52·7	
		15	0	18·2				
		20	0	18·2	43·0		53·3	
		25	0	18·3				
		30	0	19·4	43·2		53·6	
		35	0	20·1				
		40	0	21·1	43·2		53·8	
		45	0	21·8				
		50	0	21·8	42·4		54·2	
		55	0	22·1				
	2	0	0	23·1	42·7	66	54·2	65
		5	0	22·2				
		10	0	21·1	40·0		54·9	
		15	0	22·0				
		20	0	22·9	39·0		55·1	
		25	0	23·8				
		30	0	24·0	37·2		55·3	
		35	0	23·6				
		40	0	22·4	35·2		55·6	
		45	0	22·9				
		50	0	23·0	35·0		55·0	
		55	0	22·1				
	3	0	0	21·1	36·9	66	54·9	66
		5	0	19·9				
		10	0	19·2	39·0		55·4	
		15	0	19·0				
		20	0	19·0	41·0		55·8	
		25	0	18·3				

October 24, 25, and 26, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
25	3	30	0	18·2	42·0		55·7	
		35	0	18·7				
		40	0	18·1	43·0		55·9	
		45	0	18·0				
		50	0	18·0	44·0		56·2	
		55	0	19·0				
	4	0	0	19·0	44·0	67	56·3	66
		5	0	19·5				
		10	0	19·2	41·4		56·4	
		15	0	19·1				
		20	0	19·0	38·0		56·2	
		25	0	18·9				
		30	0	18·0	37·0		56·8	
		35	0	17·9				
		40	0	17·9	35·1		56·8	
		45	0	17·7				
		50	0	17·8	35·0		56·3	
		55	0	18·0				
	5	0	0	17·0	33·0	67	56·3	67
		5	0	16·8				
		10	0	16·7	30·8		56·2	
		15	0	16·4				
		20	0	16·2	32·9		56·4	
		25	0	16·1				
		30	0	16·0	37·1		56·4	
		35	0	16·0				
		40	0	16·3	39·0		55·8	
		45	0	16·8				
		50	0	16·8	37·0		55·7	
		55	0	16·1				
	6	0	0	16·2	35·9	67	55·8	67
		5	0	16·5				
		10	0	16·9	34·5		55·8	
		15	0	17·0				
		20	0	17·0	32·2		55·8	
		25	0	16·8				
		30	0	16·2	30·0		55·8	
		35	0	16·1				
		40	0	16·1	28·5		55·5	
		45	0	16·8				
		50	0	17·0	29·0		55·5	
		55	0	17·1				
	7	0	0	17·1	29·2		55·5	
		5	0	17·1				
		10	0	17·0	28·0		54·8	
		15	0	17·0				
		20	0	17·0	28·0		55·0	
		25	0	17·1				
		30	0	17·1	28·9		55·0	
		35	0	17·0				
		40	0	17·0	28·9		55·0	
		45	0	17·0				
		50	0	16·2	28·0		55·0	
		55	0	16·2				
	8	0	0	17·0	28·7	66	55·1	66
		5	0	17·0				
		10	0	17·2	32·0		56·2	
		15	0	17·1				
		20	0	17·0	35·4		56·0	
		25	0	17·0				
		30	0	17·1	34·5		56·2	
		35	0	17·8				
		40	0	17·7	34·3		55·6	
		45	0	17·5				

[a] New V. F. magnet received from England.

[b] Commencing after Sunday midnight at St. Helena.

October 24, 25, and 26, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
25	8	50	0	17·6	34·0			
		55	0	17·5				
	9	0	0	18·0	35·1		55·4	
		5	0	18·1				
		10	0	18·5	36·1		55·1	
		15	0	18·6				
		20	0	18·7	36·5		55·1	
		25	0	18·3				
		30	0	18·1	35·1			
		35	0	18·0				
		40	0	18·0	35·0		55·1	
		45	0	17·9				
		50	0	17·7	34·8		54·5	
		55	0	17·6				
	10	0	0	17·8	34·9	65	54·5	64
		5	0	18·0				
		10	0	18·1	35·4		52·5	
		15	0	18·4				
		20	0	18·8	36·4		53·4	
		25	0	18·8				
		30	0	18·8	37·2		53·4	
		35	0	18·7				
		40	0	18·6	37·8		53·4	
		45	0	18·7				
		50	0	18·8	38·9		53·4	
		55	0	18·8				
	11	0	0	19·0	39·3	65	53·5	64
		5	0	19·2				
		10	0	19·2	39·5		54·0	
		15	0	19·7				
		20	0	19·4	40·6		53·9	
		25	0	19·4				
		30	0	19·6	40·0		53·5	
		35	0	19·0				
		40	0	20·0	41·4		53·8	
		45	0	19·0				
		50	0	20·0	41·6		53·6	
		55	0	20·0				
	12	0	0	20·0	40·6	64	53·9	63
		5	0	20·0				
		10	0	20·0	41·6		53·0	
		15	0	20·0				
		20	0	20·0	43·8		53·8	
		25	0	19·8				
		30	0	20·0	45·6		53·4	
		35	0	20·0				
		40	0	19·8	45·3		53·2	
		45	0	20·0				
		50	0	20·2	45·7		53·2	
		55	0	20·1				
	13	0	0	20·8	49·5	64	53·1	63
		5	0	21·4				
		10	0	21·6	50·4		53·1	
		15	0	21·8				
		20	0	21·0	49·2			
		25	0	21·0				
		30	0	20·8	48·8		52·8	
		35	0	20·4				
		40	0	20·3	48·4		53·0	
		45	0	20·4				
		50	0	20·3	48·0		53·0	
		55	0	20·1				
	14	0	0	20·1	48·0	63	53·0	63
		5	0	20·1				
		10	0	20·1	48·3		52·8	
		15	0	20·1				

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M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
25	14	20	0	20·1	48·7		52·8	
		25	0	20·1				
		30	0	20·1	48·0		52·8	
		35	0	20·1				
		40	0	20·0	47·9		52·8	
		45	0	20·0				
		50	0	20·0	47·0		52·8	
		55	0	20·0				
	15	0	0	20·0	47·0	63	52·7	63
		5	0	20·0				
		10	0	20·0	47·5		52·7	
		15	0	20·0				
		20	0	20·0	47·0		52·6	
		25	0	20·0				
		30	0	20·0	47·3		52·5	
		35	0	20·0				
		40	0	20·0	47·8		52·5	
		45	0	19·1				
		50	0	18·1	47·4		52·4	
		55	0	18·2				
	16	0	0	17·7	47·5	63	52·4	62
		5	0	18·0				
		10	0	18·0			52·4	
		15	0					
		20	0	18·1	47·9		52·4	
		25	0	18·9				
		30	0	18·9	47·0		52·4	
		35	0	18·9				
		40	0	18·9	47·0		52·4	
		45	0	18·1				
		50	0	18·0	47·0		52·4	
		55	0	18·0				
	17	0	0	18·0	47·0		Vibr^{n}.	
		5	0	18·0				
		10	0	18·0	47·7		51·0	
		15	0	18·0				
		20	0	18·0	47·9		50·9	
		25	0	18·0				
		30	0	18·0	48·0		50·9	
		35	0	18·6				
		40	0	18·9	48·5		50·9	
		45	0	18·9				
		50	0	18·9	48·9		50·8	
		55	0	18·9				
	18	0	0	18·9	49·3	63	50·6	62
		5	0	18·9				
		10	0	18·9	49·2		50·5	
		15	0	19·0				
		20	0	19·1	49·1		50·6	
		25	0	18·1				
		30	0	19·1	49·3		50·7	
		35	0	19·1				
		40	0	19·1	49·9		50·0	
		45	0	19·0				
		50	0	19·0	50·3		50·0	
		55	0	19·0				
	19	0	0	18·9	51·0	63	50·0	62
		5	0	18·9				
		10	0	18·9	51·0		50·0	
		15	0	18·1				
		20	0	18·0	50·0		51·2	
		25	0	17·1				
		30	0	16·9	49·1		50·7	
		35	0	16·0				
		40	0	16·3	48·3		51·4	
		45	0	16·5				

October 24, 25, and 26, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
25	19	50	0	16·0	48·0		51·4	
		55	0	16·0				
	20	0	0	17·0	48·0	63	52·0	62
		30	0	14·0	48·0		51·5	
	22	0	0	13·3	47·9	62	50·8	62
		5	0	13·0				
		10	0	14·2	47·9		51·0	
		15	0	14·1				
		20	0	14·5	47·5		51·0	
		25	0	14·1				
		30	0	14·1	45·5		51·1	
		35	0	13·8				
		40	0	14·0	45·8		51·0	
		45	0	14·5				
		50	0	14·5	46·0		51·3	
		55	0	14·9				
	23	0	0	15·0	47·8	63	51·4	62
		5	0	15·6				
		10	0	15·6	47·5		51·4	
		15	0	15·3				
		20	0	16·1	47·0		51·7	
		25	0	16·4				
		30	0	16·4	46·1		52·0	
		35	0	16·7				
		40	0	16·4	46·5		51·9	
		45	0	16·8				
		50	0	16·8	45·2		52·2	
		55	0	17·1				
26	0	0	0	17·0	44·2	63	52·2	63
		30	0	20·4	49·1		52·4	
	1	0	0	19·6	49·0	64	52·9	63
		30	0	20·2	50·0		53·2	
	2	0	0	21·0	48·2	64	57·7	64
	3	0	0	20·2	43·1	65	56·9	64
		30	0	19·2	42·0		56·7	
	4	0	0	18·7	44·0	65	56·9	64
	4	30	0	18·1	41·1		56·9	
	5	0	0	18·0	34·9	65	56·4	64
	6	0	0	18·9	42·5	65	55·9	64
	8	0	0	18·7	43·2	64	55·6	63
	10	0	0	20·2	49·0	63	52·4	63
	11	0	0	20·2	47·9	63	52·3	63
	12	0	0	20·0	48·9	63	52·4	62
	13	0	0	19·8	50·0	63	52·6	62
	14	0	0	20·0	52·0	62	53·2	62
	15	0	0	19·2	51·0	62	53·1	62
	16	0	0	19·0	50·5	62	53·1	62
	18	0	0	19·0	50·1	62	52·8	61
	19	30	0	16·1	50·9	62	52·6	60
	20	0	0	15·5	51·4	62	53·7	61
	20	30	0	14·8	51·2	62	53·7	61
	22	0	0	16·0	53·0	62	53·9	61
	23	0	0	16·3	53·0	62	52·0	62

The Mean Positions at the usual hours during the Month are given in page 89.

October 24, 25, and 26, 1841.

Cape of Good Hope — Decl. 1 Scale Division = 0′·75; H. F. k = ·000180; q = ·0003; V. F.[a] k = ; q =

Positions at the usual hours of observation, October 24, 25, and 26.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
24	12	0	0[b]	55·0	74·0	64		
	13	0	0	54·6	74·0			
	14	0	0	53·5	76·0	63		
	15	0	0	52·0	76·0			
	16	0	0	53·0	78·0	63		
	17	0	0	50·0	76·9			
	18	0	0	49·0	75·0	63		
	19	0	0	48·0	71·0			
	20	0	0	51·0	74·4	63		
	21	0	0	51·2	69·6			
	22	0	0	53·0	65·3	63		
	23	0	0	55·4	64·7			
25	0	0	0	55·1	61·8	62		
	1	0	0	58·0	56·6			
	2	0	0	63·1	48·2	62		
	3	0	0	54·4	48·0			
	4	0	0	54·9	57·3	63		
	5	0	0	54·6	44·3			
	6	0	0	50·9	50·9	62		
	7	0	0	51·8	46·6			
	8	0	0	45·0	51·5	62		
	9	0	0	49·4	55·0			
	10	0	0	48·2	54·7	62		
	11	0	0	51·3	57·1			
	12	0	0	51·1	60·2	62		
	13	0	0	55·9	66·1			
	14	0	0	53·9	65·4	62		
	15	0	0	50·9	64·7			
	16	0	0	49·0	64·7	62		
	17	0	0	49·0	64·2			
	18	0	0	49·6	68·0	62		
	19	0	0	47·9	71·0			
	20	0	0	46·7	67·2	62		
	21	0	0	45·6	65·1			
	22	0	0	46·7	62·6	62		
	23	0	0	49·2	59·2			
26	0	0	0	51·8	51·8	63		
	1	0	0	52·6	57·4			
	2	0	0	55·0	57·3	64		
	3	0	0	54·0	53·0			
	4	0	0	52·0	55·3	64		
	5	0	0	48·0	47·1			
	6	0	0	50·4	55·7	64		
	7	0	0	51·1	58·0			
	8	0	0	50·9	58·6	64		
	9	0	0	52·8	65·8			
	10	0	0	53·2	65·0	64		
	11	0	0	52·3	63·5			
	12	0	0	52·5	64·8	63		
	13	0	0	53·7	65·6			
	14	0	0	54·1	67·6	63		
	15	0	0	51·8	66·8			
	16	0	0	51·0	65·9	63		
	17	0	0	50·4	66·2			
	18	0	0	48·7	67·0	63		
	19	0	0	47·4	65·4			

October 24, 25, and 26, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
26	20	0	0	47·4	65·7	63		
	21	0	0	48·3	64·2			
	22	0	0	50·8	63·1	63		
	23	0	0	53·7	61·0			

The Mean Positions at the same hours during the Month are given in page 90.

Van Diemen Island — Decl. 1 Scale Division = 0′·71; H. F. k = ·0003; = q; V. F. k = ; = q

Regular and extra observations.

The V. F. was observed at 2^m. 30^s. before, and the H. F. 2^m. 30^s. after the times specified.

24	3	0	0[c]	59·8	54·2		52·8	
	4	0	0	58·7	55·0	55	51·0	54
	5	0	0	61·9	54·8		52·7	
	6	0	0	59·8	55·2	55	51·2	54
	7	0	0	59·2	56·0		50·6	
	8	0	0	58·4	56·7	54	50·4	53
	9	0	0	59·1	56·6		50·0	
	10	0	0	57·8	56·9	54	49·6	53
	11	0	0	52·8	56·1		49·4	
	12	0	0	53·0	54·4	55	46·2	55
	13	0	0	53·7	51·8		48·0	
	14	0	0	57·9	49·7	57	48·3	58
	15	0	0	64·7	50·8		45·7	
	16	0	0	69·9	54·1	60	41·9	60
	17	0	0	75·0	55·0		44·4	
	18	0	0	77·5	55·0	62	45·3	60
	19	0	0	75·2	48·8		54·9	
	20	0	0	76·2	49·0	62	55·7	60
	21	0	0	75·0	49·0		59·1	
	22	0	0	65·3	47·6	61	60·0	59
	23	0	0	59·8	49·9		63·2	
25	0	0	0	58·8	47·5	59	64·9	58
	1	0	0	53·3	44·9		61·3	
	2	0	0	53·0	45·7	58	61·4	57
		15	0	66·6	51·2		43·8	
		22	30	58·7	51·7		34·9	
		30	0	51·6	55·2		27·6	
		37	30	57·0	54·8		23·9	
		45	0	52·1	51·6		21·8	
	3	0	0	42·3	46·6	58	23·5	
		10	0	45·5	46·3			
		15	0	45·4				
		20	0	47·1	47·0		32·0	
		25	0	48·4				
		30	0	50·2	47·3		34·7	
		35	0	51·5				
		40	0	53·1	47·3		36·1	
		45	0	54·8				
		50	0	55·4	47·5		38·0	
	4	0	0	51·9	44·4	58	37·9	
		10	0	43·7	41·7			
		15	0	40·7				
		20	0	37·8	41·0		34·8	59
		25	0	37·0				
		30	0	39·0	41·3		34·3	
		35	0	43·5				
		40	0[d]	49·7	43·4		37·8	
		45	0	54·1				

October 24, 25, and 26, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
25	4	50	0	52·8	47·2		37·4	
		55	0	53·8				
	5	0	0	53·5	47·4	58	37·9	
		20	0	52·4	46·8			
		25	0	55·1				
		30	0	54·1	47·2		37·9	58
		35	0	54·8				
		40	0	55·0	47·2		37·9	
		45	0	55·3				
		50	0	54·9			38·4	
	6	0	0	52·6	47·4	56	38·6	56
	7	0	0	52·1	48·8		38·6	
	8	0	0	58·2	46·1	53	50·2	53
		10	0	59·2	45·3			
		15	0	59·9				
		20	0	61·3	46·9		50·9	
		25	0	60·9				
		30	0	61·4	49·8		48·2	
		35	0	61·3				
		40	0	61·7	49·3		46·1	
		45	0	60·3				
		50	0	59·0	49·1		43·9	
		55	0	57·2				
	9	0	0	55·3	49·5	53	43·3	53
	10	0	0	59·2	49·3	53	46·2	53
	11	0	0	53·1	47·9		45·4	
	12	0	0	53·3	46·2	57	44·8	57
	13	0	0	56·6	41·6		47·3	
	14	0	0	60·3	42·9	61	45·2	60
	15	0	0	64·3	44·7		38·3	
	16	0	0	69·1	45·2	63	40·7	62
	17	0	0	68·4	46·1		41·5	
	18	0	0	70·6	47·2	65	41·0	63
	19	0	0	69·4	47·5		45·9	
	20	0	0	68·3	47·5	65	48·0	63
	21	0	0	65·9	46·0		49·7	
	22	0	0	56·2	48·5	63	41·9	61
	23	0	0	58·5	47·9		41·1	
26	0	0	0	60·5	57·2	62	31·1	59
	1	0	0	56·9	51·7		44·3	
	3	0	0	53·3	49·3		43·1	
	5	0	0	56·8	52·8		39·1	
	6	0	0	52·1	51·8	55	43·7	54
	7	0	0	57·3	52·7		48·2	
	8	0	0	62·1	51·7	54	52·3	53
	9	0	0	59·6	50·8		52·5	
	10	0	0	57·6	51·3	54	51·2	54
	11	0	0	56·1	51·2		51·7	
	12	0	0	55·9	48·9	56	46·2	57
	13	0	0	56·5	44·5		45·0	
	14	0	0	60·5	44·5	61	41·9	61
	15	0	0	63·1	45·8		37·1	
	16	0	0	67·0	46·8	66	35·9	64
	17	0	0	67·4	48·6		33·3	
	18	0	0	65·7	48·8	68	33·2	66
	19	0	9	63·2	49·1		35·2	
	20	0	0	64·0	48·1	68	37·0	66
	21	0	0	60·4	47·3		36·2	
	22	0	0	61·0	48·1	67	35·5	65
	23	0	0	56·6	46·8		35·7	

The Mean Positions at the usual hours of observation during the Month, are given in page 90.

[a] V. F. magnetometer not in satisfactory adjustment.
[b] Commencing after midnight of Sunday at the Cape of Good Hope.
[c] Commencing after midnight of Sunday at Van Diemen Island.
[d] "A very faint light to the Southward, rendered now more visible by the moon having set."

November 4, 5, and 6, 1841.

TORONTO* { Decl. 1 Scale Division = 0′·72
H. F. k = ·000076; q = ·0002
V. F. k = ·000092; q = ·00018

Extra observations.

The V. F. was observed at 1m. 30s. before, and the H. F. 2m. after the times specified.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
6	0	20	0	114·9	422·9	49		
		25	0	113·9	422·1		90·2	50
		30	0	113·2	423·1		90·0	
		35	0	114·6	427·8		91·4	
		40	0	116·7	428·1		92·3	
		45	0	114·9	429·9		92·5	
		50	0	115·2	431·2		92·6	
		55	0	116·3	436·1		92·3	
	1	0	0	118·3	435·6	50	94·1	51
		5	0	118·6	428·1		94·3	
		10	0	120·6	428·8		93·0	
		15	0	124·8	435·8		92·8	
		20	0	127·7	429·4		93·3	
		25	0	128·0	434·7		91·3	
		30	0	127·5	443·7		92·9	
		35	0	127·1	449·6		95·1	
		40	0	127·1	446·4		95·3	
		45	0	129·4	448·8		96·1	

Positions at the usual hours of observation, November 4, 5 and 6.

4	0	0	0	138·3	435·4	53	71·3	54
	2	0	0	138·9	421·2	52	93·4	53
	4	0	0	128·9	410·9	52	96·9	53
	6	0	0	131·3	421·9	53	97·4	53
	8	0	0	132·3	425·9	54	99·1	54
	10	0	0	136·6	438·8	54	98·5	54
	12	0	0	139·3	449·1	53	98·0	54
	14	0	0	139·7	431·8	53	97·8	54
	16	0	0	140·8	428·5	53	96·7	53
	18	0	0	137·0	431·7	52	96·7	53
	20	0	0	138·3	423·4	52	88·5	52
	22	0	0	125·0	397·3	51	85·9	52
5	0	0	0	137·5	458·2	51	88·6	52
	2	0	0	137·3	440·7	51	93·2	52
	4	0	0	133·4	408·4	51	97·7	52
	6	0	0	132·4	429·2	51	99·4	52
	8	0	0	131·5	414·4	51	102·5	52
	10	0	0	130·9	413·6	52	113·2	52
	12	0	0	140·3	433·5	52	105·1	52
	14	0	0	145·6	439·1	51	101·7	51
	16	0	0	138·2	422·1	51	98·0	51

November 4, 5, and 6, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
5	18	0	0	143·9	424·2	51	85·4	51
	20	0	0	140·8	421·9	50	85·4	51
	22	0	0	142·9	442·8	50	92·8	50
6	0	0	0	119·3	410·7	49	90·3	50
	2	0	0	131·0	446·9	50	97·9	51
	4	0	0	142·3	438·4	49	102·3	50
	6	0	0	134·1	432·4	49	103·5	50
	8	0	0	131·0	426·5	49	105·5	50
	10	0	0	134·2	451·2	49	107·0	49
	12	0	0	140·6	430·4	49	107·6	49
	14	0	0	146·0	434·3	49	105·2	49
	16	0	0[a]	148·5	448·4	48	107·2	49

Mean Positions at the same hours during the Month.

0	0	0	136·9	456·7	47	99·7	49
2	0	0	140·2	455·7	47	103·2	48
4	0	0	137·2	447·4	48	103·0	48
6	0	0	132·4	445·2	49	102·9	49
8	0	0	132·2	451·9	49	103·7	49
10	0	0	135·0	456·4	49	103·9	49
12	0	0	138·7	456·5	49	104·9	49
14	0	0	140·6	455·2	49	104·2	49
16	0	0	139·2	453·7	48	101·4	49
18	0	0	139·3	450·7	48	101·3	49
20	0	0	139·2	449·3	48	99·9	49
22	0	0	139·3	454·5	48	102·0	48

ST. HELENA { Decl. 1 Scale Division = 0′·711
H. F. k = ·00019; q = ·00025
V. F. k = ·00046; q =

Positions at the usual hours of observation, November 4, 5, and 6.

4	0	0	0	18·9	44·9	62	54·6	62
	2	0	0	20·9	37·5	62	53·9	62
	3	0	0	22·0	37·0	62	54·1	62
	4	0	0	21·9	37·1	63	53·4	63
	5	0	0	21·0	41·0	63	54·5	63
	6	0	0	20·1	41·0	63	57·4	63
	8	0	0	20·2	40·1	62	56·5	62
	10	0	0	20·0	43·0	62	57·6	62
	11	0	0	20·2	43·2	62	57·4	62
	12	0	0	21·0	44·0	62	57·4	62
	13	0	0	20·8	44·2	62	57·4	61
	14	0	0	19·0	44·0	62	57·2	61
	15	0	0	19·0	44·0	62	57·0	61
	16	0	0	19·0	46·0	62	56·9	61
	18	0	0	19·0	45·0	62	58·3	61
	19	30	0	17·1	47·4	62	58·7	61

November 4, 5, and 6, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
4	20	0	0	17·0	47·0	62	57·7	61
	20	30	0	15·9	47·9	61	57·1	61
	22	0	0	15·9	47·7	61	56·8	61
	23	0	0	18·0	50·1	61	56·8	61
5	0	0	0	20·2	48·4	62	56·8	61
	2	0	0	21·5	44·9	63	57·4	62
	3	0	0	22·4	44·5	63	57·5	62
	4	0	0	23·0	40·1	63	57·5	62
	5	0	0	22·0	45·0	63	57·4	62
	6	0	0	21·4	44·0	63	57·0	62
	8	0	0	20·1	41·0	62	57·5	62
	10	0	0	19·0	34·1	62	57·0	62
	11	0	0	20·0	38·2	62	57·4	62
	12	0	0	20·0	39·1	62	57·4	61
	13	0	0	19·9	42·0	62	57·5	61
	14	0	0	20·0	42·9	62	56·6	61
	15	0	0	20·0	43·0	62	56·0	61
	16	0	0	18·5	42·9	62	55·7	61
	18	0	0	17·1	44·0	61	56·3	61
	19	30	0	18·1	47·8	61	56·2	61
	20	0	0	18·5	47·0	61	56·6	61
	20	30	0	18·0	46·0	61	56·6	61
	22	0	0	18·2	45·9	61	57·0	61
	23	0	0	20·0	48·0	61	57·0	62
6	0	0	0	21·6	44·9	62	57·4	62
	2	0	0	20·0	42·1	63	57·5	63
	3	0	0	21·0	45·0	63	57·6	63
	4	0	0	19·8	46·2	64	57·5	64
	5	0	0	19·9	45·2	64	57·7	64
	6	0	0	20·9	44·0	64	57·7	63
	8	0	0	20·7	39·1	64	58·7	63
	10	0	0	20·3	39·9	63	[b]	
	11	0	0	21·1	44·5	63	59·0	61
	12	0	0[c]	21·1	41·5	63	57·7	62

Mean Positions at the same hours during the Month.

0	0	0	22·5	50·4	64	55·1	64
2	0	0	23·6	47·3	66	56·2	65
3	0	0	23·4	45·9	66	56·6	65
4	0	0	22·0	45·0	67	56·8	66
5	0	0	21·0	44·4	67	57·2	66
6	0	0	20·7	43·0	66	57·4	66
8	0	0	21·8	42·2	66	56·9	65
10	0	0	22·4	42·0	65	56·2	65
11	0	0	22·6	42·6	65	56·2	64
12	0	0	22·4	43·4	65	56·1	64
13	0	0	22·4	43·7	65	56·0	64
14	0	0	22·2	44·5	64	55·6	64
15	0	0	21·9	44·6	64	55·5	64

* TORONTO, November, 1841.—*Times of observation at which the Magnetometers were disturbed, but the mean readings were not materially changed.*

d.	h.	
1	10	H. F. moderate shocks.
2	22	V. F. slightly vibrating.
3	0	H. F. moderately vibrating.
	18	Decl. and H. F. moderate vibrations and shocks.
4	22	H. F. moderately vibrating.
5	0	Decl. slight shocks.
	18	H. F. moderate shocks and vibrating; 16h. Decl. moderate shocks.
8	12	H. F. slight shocks.
10	6	Moderate vibrations and shocks.
11	2	Moderate vibrations and shocks.
12	2	Decl. and H. F. strong shocks.
	4	H. F. moderate vibrations; 6h. H. F. moderate vibrations.
	8	H. F. slight vibrations.
	20	H. F. slight shocks.
15	0	Decl. strong shocks; H. F. vibrating much with shocks.
	2	Decl. and H. F. strong shocks.
	4	Decl. and H. F. moderate vibrations and shocks; V. F. slight vibrations.
15	8	H. F. slight shocks.
16	2	H. F. moderate shocks.
17	16	H. F. moderate shocks.
18	2	Decl. and H. F. moderate shocks.
19	4	H. F. vibrating much.
	8	H. F. considerable vibrations.
	18	Decl. moderate vibrations; H. F. considerable vibrations.
20	0	Decl. and H. F. strong shocks.
	2	H. F. vibrating much with shocks.
23	2	H. F. moderate vibrations and shocks.
24	22	V. F. slight vibrations.
25	0	H. F. moderate shocks.
26	0	Decl. moderate shocks.
	4	H. F. moderate shocks.
29	10	H. F. slight vibrations.

[a] Saturday midnight at Toronto.
[b] Vibrating too much for exact observation.
[c] Saturday midnight at St. Helena.

November 4, 5, and 6, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
	16	0	0	21·6	45·1	64	55·4	64
	18	0	0	21·0	46·0	64	55·5	63
	19	30	0	19·4	47·6	64	55·5	63
	20	0	0	18·5	48·5	64	55·3	63
	20	30	0	18·0	49·0	64	55·1	63
	22	0	0	19·1	50·5	63	54·8	63
	23	0	0	20·4	51·1	64	54·7	63

Cape of Good Hope

Decl. 1 Scale Division = 0′·75
H. F. k = ·000180; q = ·0003
V. F. k = ·000047; q =

Positions at the usual hours of observation, November 4, 5, and 6.

4	0	0	0	54·1	61·6	62	123·9	62
	1	0	0	54·0	59·0	62		
	2	0	0	55·6	59·0	62	124·2	62
	3	0	0	57·1	60·2	62		
	4	0	0	55·0	58·8	62	128·4	63
	5	0	0	55·0	62·5	63		
	6	0	0	54·3	63·9	63	115·8	63
	7	0	0	53·9	64·4	63		
	8	0	0	52·6	67·3	63	114·0	63
	9	0	0	54·0	70·0	63		
	10	0	0	52·9	70·0	62	109·9	62
	11	0	0	53·9	70·8	62		
	12	0	0	54·7	71·9	62	106·9	62
	13	0	0	54·5	72·7	62		
	14	0	0	52·6	73·0	61	117·6	61
	15	0	0	52·0	73·1	61		
	16	0	0	51·3	75·1	61	115·1	61
	17	0	0	50·6	75·3	61		
	18	0	0	46·8	76·3	61	119·1	61
	19	0	0	48·0	76·9	60		
	20	0	0	49·4	75·1	60	118·4	61
	21	0	0	50·4	72·0	61		
	22	0	0	50·8	68·4	61	114·9	61
	23	0	0	53·0	70·3	61		
5	0	0	0	54·5	67·8	61	106·4	61
	1	0	0	55·9	67·2	62		
	2	0	0	57·0	64·6	62	110·1	62
	3	0	0	55·8	67·0	62		
	4	0	0	54·9	62·7	62	128·6	62
	5	0	0	53·9	67·9	62		
	6	0	0	53·8	68·0	62	115·4	62
	7	0	0	53·4	67·4	62		
	8	0	0	50·2	69·6	62	123·7	62
	9	0	0	49·2	68·0	62		
	10	0	0	49·4	65·8	62	129·7	62
	11	0	0	53·7	68·0	62		
	12	0	0	51·0	68·6	62	115·1	62
	13	0	0	52·9	69·9	62		
	14	0	0	53·1	70·2	62	116·9	62
	15	0	0	51·9	70·3	62		
	16	0	0	50·4	70·5	62	120·0	62
	17	0	0	48·2	71·0	62		
	18	0	0	48·8	71·0	61	121·6	62
	19	0	0	50·3	71·1	61		
	20	0	0	54·8	73·3	61	98·8	62
	21	0	0	54·0	72·6	61		
	22	0	0	54·2	71·8	61	109·3	62

November 4, 5, and 6, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
5	23	0	0	54·6	70·9	61		
6	0	0	0	56·2	63·9	62	107·8	62
	1	0	0	56·0	59·8	62		
	2	0	0	53·9	62·0	62	122·3	62
	3	0	0	53·8	67·6	63		
	4	0	0	54·0	68·2	63	107·2	63
	5	0	0	53·9	67·5	63		
	6	0	0	54·0	68·8	63	110·3	63
	7	0	0	54·0	69·0	63		
	8	0	0	51·0	67·1	63	124·6	63
	9	0	0	51·3	67·8	62		
	10	0	0	52·4	68·0	62	120·2	63
	11	0	0[a]	54·4	73·6	63		

Mean Positions at the same hours during the Month.[b]

	0	0	0	53·9	69·7	64		
	1	0	0	55·0	69·4	64		
	2	0	0	55·4	68·6	65		
	3	0	0	54·6	68·5	65		
	4	0	0	53·5	68·2	65		
	5	0	0	52·8	68·3	65		
	6	0	0	52·8	67·8	65		
	7	0	0	53·0	68·5	65		
	8	0	0	52·8	68·3	65		
	9	0	0	53·1	69·1	65		
	10	0	0	52·7	69·5	65		
	11	0	0	53·1	70·7	65		
	12	0	0	52·9	71·4	64		
	13	0	0	53·1	72·6	64		
	14	0	0	52·5	72·9	64		
	15	0	0	51·8	73·2	64		
	16	0	0	51·3	74·0	64		
	17	0	0	50·5	75·1	63		
	18	0	0	48·9	75·8	63		
	19	0	0	47·5	76·5	63		
	20	0	0	47·1	75·9	63		
	21	0	0	47·6	74·3	63		
	22	0	0	49·7	72·5	64		
	23	0	0	51·8	71·1	64		

Van Diemen Island

Decl. 1 Scale Division = 0′·71
H. F. k = ·0003; q =
V. F. k = q =

Positions at the usual hours of observation, from November 3rd, 12^h. to November 6th, 2^h.

3	12	0	0	37·9	64·0	55	41·8	55
	13	0	0	40·0	62·9		39·9	
	14	0	0	44·5	63·5	57	35·7	57
	15	0	0	52·1	65·7		31·2	
	16	0	0	57·8	65·2	60	32·0	59
	17	0	0	57·4	64·8		31·0	
	18	0	0	56·4	69·3	62	34·4	60
	19	0	0	62·4	62·4		42·7	
	20	0	0	63·0	62·6	62	43·2	60
	21	0	0	56·3	66·5		32·2	
	22	0	0	52·4	63·9	61	33·3	59
	23	0	0	43·3	54·3		42·5	
4	0	0	0	44·8	55·3	60	51·8	57
	1	0	0	40·0	58·9		43·9	

November 4, 5, and 6, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
4	2	0	0	36·0	60·3	58	40·0	56
	3	0	0	41·7	61·1		40·0	
	4	0	0	41·8	66·9	57	30·9	55
	5	0	0	40·6	61·5		39·4	
	6	0	0	43·9	62·2	56	41·9	54
	7	0	0	44·7	63·0		41·9	
	8	0	0	43·8	63·2	54	43·3	53
	9	0	0	43·2	63·5		42·8	
	10	0	0	43·0	63·5	54	42·5	53
	11	0	0	39·5	64·6		39·0	
	12	0	0	38·1	64·0	55	36·8	54
	13	0	0	44·4	62·2		34·5	
	14	0	0	43·6	60·4	58	37·6	58
	15	0	0	48·1	60·5		38·1	
	16	0	0	52·4	60·1	59	37·5	59
	17	0	0	56·1	62·7		33·5	
	18	0	0	58·5	62·2	60	35·5	59
	19	0	0	57·8	63·0		36·6	
	20	0	0	56·2	61·4	60	38·8	59
	21	0	0	52·0	61·7		39·3	
	22	0	0	46·3	65·3	59	34·2	58
	23	0	0	41·5	62·0		35·1	
5	0	0	0	36·9	59·5	58	37·7	56
	1	0	0	39·9	60·8		39·7	
	2	0	0	36·3	60·2	57	37·6	56
	3	0	0	40·1	61·4		35·9	
	4	0	0	45·0	68·0	57	27·9	56
	5	0	0	43·9	62·9		38·0	
	6	0	0	41·5	63·5	56	36·4	54
	7	0	0	42·3	63·9		36·9	
	8	0	0	42·2	63·8	55	36·0	54
•	9	0	0	43·4	63·7		36·5	
	10	0	0	43·6	63·4	54	36·1	53
	11	0	0	46·3	63·5		35·6	
	12	0	0	42·0	62·5	56	34·9	54
	13	0	0	41·6	62·0		35·4	
	14	0	0	44·9	59·8	57	37·4	56
	15	0	0	48·8	58·6		42·1	
	16	0	0	54·7	58·2	59	42·6	58
	17	0	0	58·2	60·2		39·8	
	18	0	0	56·8	60·8	60	39·0	59
	19	0	0	50·4	63·6		38·0	
	20	0	0	52·5	59·6	61	44·9	59
	21	0	0	50·9	59·8		42·6	
	22	0	0	47·7	60·8	60	38·9	58
	23	0	0	47·9	63·0		38·6	
6	0	0	0	52·7	66·1	58	28·4	57
	1	0	0	41·6	63·7		36·3	
	2	0	0[c]	45·6	63·7	57	36·5	56

Mean Positions at the same hours during the Month.

	0	0	0	44·6	61·0	63	29·4	61
	1	0	0	43·3	61·5		29·9	
	2	0	0	44·2	63·0	62	30·1	60
	3	0	0	44·0	63·2		31·0	
	4	0	0	45·1	63·6	60	32·0	59
	5	0	0	45·9	63·6		33·9	
	6	0	0	46·2	64·0	59	34·1	57
	7	0	0	46·3	64·2		35·1	
	8	0	0	45·4	64·8	58	35·4	57
	9	0	0	43·6	64·7		34·8	

• Saturday midnight at the Cape of Good Hope.

[b] The observations of the V. F. magnet during the month are not sufficiently regular to admit of mean positions being derived: the mean positions of the Decl. are from the 1st to the 25th inclusive.

[c] Saturday midnight at Van Diemen Island.

November 4, 5, and 6, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
10	0	0		42·5	64·2	57	34·6	57
11	0	0		40·3	63·0		33·8	
12	0	0		39·9	60·9	59	33·3	59
13	0	0		42·3	59·1		32·4	
14	0	0		45·8	58·5	62	31·3	62
15	0	0		50·9	58·5		29·7	
16	0	0		54·8	59·6	65	28·1	63
17	0	0		56·0	60·7		26·5	
18	0	0		56·0	61·2	66	26·2	64
19	0	0		54·0	60·9		26·2	
20	0	0		52·3	60·8	66	26·8	64
21	0	0		50·3	60·7		27·1	
22	0	0		48·4	61·1	65	27·1	63
23	0	0		46·2	61·0		27·8	

November 18, 19, and 20, 1841.

TORONTO { Decl. 1 Scale Division = 0′·72
H. F. k = ·000076; q = ·0002
V. F. k = ·000092; q = ·00018

Extra observations.

The V. F. was observed at 1^m. 30^s. before, and the H. F. 2^m. after the times specified.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
18	12	20	0[a]	135·8	432·7	49	151·4	49
		25	0	145·9	435·7		147·4	
		30	0	135·2	431·4		135·6	
		35	0	128·5	445·8		138·9	
		40	0	131·6	448·9		145·8	
		45	0	138·0	470·7		144·1	

November 18, 19, and 20, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
18	12	50	0	117·1	459·1		143·1	
		55	0	134·2	477·9		138·3	
	13	0	0	146·2	485·9	48	157·2	49
		5	0	148·3	436·5		147·1	
		10	0	150·5	400·8		133·0	
		15	0	148·0	390·5		124·3	
		20	0	167·8	457·1		135·7	
		25	0	185·2	450·4		131·3	
		30	0	141·0	425·3		100·0	
		35	0	135·1	410·1		112·7	
		40	0	131·4	416·3		119·9	
		45	0	134·1	418·7		123·0	
		50	0	126·3	414·4		122·0	
		55	0	114·6	359·8		128·0	

[a] An Auroral light in the North was first seen at 12^h.; weather calm and clear. The following observations will show the rapid and various changes of its features:—

d. h. m.

18 12 10 Patches and streamers in North to an alt. of about 30°, luminous haze extending to zenith.

25 Double arch of light from N.E. to N.W., alt. about 10°, streamers shooting from it to an alt. of 40°; patches and luminous haze from East to West.

40 Bank of strati rising in North; streamers in N.W., and luminous haze in East and zenith.

13 0 Detached banks and patches of light covering ½ of the sky to Northward; eight or nine distinct groups of bright streamers dispersed about, appearing all to follow a general course Westward.

10 The detached banks and patches of light united, forming one splendid sheet of light. A very bright range of streamers extended from N.E. to N.W., all travelling from the Eastward, and disappearing regularly as they reached the N.W. extremity.

15 A very brilliant double arch of light extending from the N.E. to N.W.; alt. of exterior arch about 20°, interior 10°: ranges of bright streamers between the arches.

22 A very extraordinary bank of light appeared in N.N.E. throwing out brilliant streamers in all directions; streamers tinged with deep red and blue.

25 A very large number of streamers overspreading the whole Northern portion of the sky; banks and patches of light of different shapes and colours appearing and disappearing too rapidly to be accurately described.

30 A remarkably bright streak of light extending across the zenith from North to S.E., remained steady for a few seconds, afterwards the Southern end moved slowly across the sky and disappeared in the West horizon. Bright arch of light in the North with streamers.

35 Streamers disappeared, leaving only a bright bank of light.

40 Bank sinking lower in horizon, occasionally shooting up a bright streamer to the zenith.

43 Bank of light becoming brighter, streamers appearing and disappearing rapidly.

45 A low, well-defined, dark arch stretching from N.E. to N.W., alt. about 5°, bright masses of light (like cirro-cumuli clouds) moving along its border; no streamers visible.

50 Dark arch still visible, large masses of light of a reddish blue colour issuing from behind it, and after assuming various shapes, disappearing suddenly; double arch from North to N.W. and a number of streamers.

14 0 Wind N.N.W., light, clear. Numberless streamers and patches waving and moving rapidly past one another from East to West.

10 Light becoming fainter, but extending over a greater portion of the sky; a few small streamers.

15 Light covering about ⅔ths of the sky, appearing like haze; streamers moving Westward.

25 Nothing remarkable since last observation.

30 Size of arch rather increased; streamers and patches of light moving Westward.

45 Double arch; alt. of smaller one about 20°, of larger 45°; patches and streamers visible between them; a very large streamer shot up from East extremity of larger arch almost to the zenith, and disappeared in a few seconds.

50 The whole Northern portion of the sky one sheet of pale light, several bright streamers in East; stars visible through the light.

55 Magnificent arch of light across the sky from East to N.W., alt 50°; very brilliant streamers in N.W.

15 0 Arch of light becoming fainter, brightest at the extremities.

5 Arch brighter, the whole North sky brilliantly illuminated, a few faint streamers in N.E.

10 Arch of light still very bright; streamers occasionally appearing and disappearing in East and N.W., those in N.W. moving round and dying away in West.

d. h. m.

18 15 15 A very splendid arch extending from East to W.N.W., breadth about 10°, alt. 55°; a few faint streamers at each extremity.

20 Arch considerably fainter, several bright patches underneath.

25 Bright wavy patches appearing and disappearing in N., arch of light the same as at the last observation.

30 Arch of light fainter, alt. 45°, very bright pulsations in N.E.

35 Brilliant bank covering the whole North sky, brightest at the extremities.

40 Light much fainter in zenith, a few very faint streamers in N.E.

45 A double arch of light from East to N.W.; patches of light appearing and disappearing rapidly in North horizon.

50 Numerous bright streamers shot up suddenly in East, and moved rapidly across the sky to N.W., then suddenly disappeared.

55 A splendid range of wavy light appeared, and after moving rapidly backward and forward between East and N.W. several times, disappeared gradually in N.; lower part of a bright red colour.

16 0 Brilliant streamers covering the whole North sky; waving light rapidly moving backwards and forwards.

5 A broad band of light partly across the sky, about 20° South of the zenith, gradually sinking into the North horizon.

10 Light much fainter; a few very bright patches of light round the North horizon, and a few streamers visible.

15 A double bank of light across the North sky, lower bank considerably the brightest.

20 Streamers and vivid pulsations, covering the whole North sky.

25 Very bright pulsations flashing and quivering over ⅔ of the sky.

30 A small steady patch of light in zenith; very vivid pulsations; streamers shooting upwards from North and East. The whole North sky in continual motion, broad patches of light traversing backwards and forwards with great velocity.

35 Light fainter, but vivid pulsations still apparent.

40 Bright streamers round the whole of North and N.E. horizon. Auroral light extending directly across the zenith to S.E. by South.

45 Clouds rising in South and S.E.; several remarkably bright streamers in North, moving Westward and suddenly disappearing. Pulsations flashing and quivering without intermission since 16^h. 30^m.

50 ⅔ of the sky to Northward covered with vivid pulsations, and remarkably bright streamers rapidly appearing and disappearing.

55 Appearances the same.

17 0 Wind N.W. very light. Partially clouded in North and N.E. cirro-cumuli, strati, and cirro-strati round South horizon (clouding from Eastward), light alternately faint and bright.

5 Bright bank across the whole of North sky, a few bright streamers occasionally.

10 Bank a little fainter, a few faint pulsations in zenith.

15 Bank fainter, and gradually decreasing in size, a few faint streamers visible occasionally.

20 Bank again brighter, a few bright streamers appearing occasionally above it.

25 Fainter, no streamers.

30 Fainter, no streamers; wind Northerly, very light, ⅔ clouded, cirro-cumuli and cirro-strati dispersed generally over the sky.

35 Light considerably fainter.

40 Moderately bright. Bank of light, alt. 30°, extending from N.W. to N.E.

45 Considerably fainter, partially clouded in North.

50 Rather brighter.

55 Faint bank, alt. 20°.

18 0 Wind North by West, light, ⅓ clouded, principally round horizon, cirro-cumuli and cirro-strati, remainder clear, fair. Auroral light fainter.

10 Several bright streamers shooting up from the Northward and rapidly disappearing; very bright pulsations across the whole North horizon.

20 Aurora very brilliant; a great number of streamers shooting up to an alt. of 50°.

25 Streamers as before; a number of very vivid pulsations rising from N.E. Streamers passing quickly from East to West.

November 18, 19, and 20, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
18	14	0	0	124·2	424·0	47	119·5	49
		5	0	137·7	459·4		152·9	
		10	0	141·4	484·2		146·4	
		15	0	137·9	468·7		144·8	
		20	0	145·9	483·1		141·1	
		25	0	138·7	459·8		141·2	
		30	0	131·4	423·8		130·1	
		35	0	131·2	438·2		132·5	
		40	0	139·0	414·8		136·7	
		45	0	131·1	384·3		121·9	
		50	0	142·5	413·6		133·6	
		55	0	150·0	446·4		142·4	
	15	0	0	155·0	421·2	47	142·4	48
		5	0	149·4	412·1		136·1	
		10	0	149·3	399·1		134·7	
		15	0	158·2	407·9		132·3	
		20	0	153·7	409·8		129·2	
		25	0	153·7	403·9		130·3	
		30	0	147·0	400·4		128·2	
		35	0	148·0	417·2		129·9	
		40	0	146·8	416·6		132·9	
		45	0	143·8	394·7		129·5	
		50	0	160·5	490·2		115·3	
		55	0	191·9	413·8		107·3	
	16	0	0	131·3	394·5	45	51·6	47
		5	0	82·6	429·3		69·8	
		10	0	131·6	399·2		116·4	
		15	0[a]	104·6	Off Scale.	[b]	95·1	
		20	0	65·9	Off Scale.		79·8	
		25	0	95·7	4·5		70·5	
		30	0	41·5	143·9		46·0	
		35	0	52·3	162·9		63·5	
		40	0	102·9	245·8		84·4	
		45	0	119·3	320·9		69·5	
		50	0	95·3	333·8		67·7	
		55	0	122·7	312·6		99·8	
	17	0	0	142·0	349·9	45	102·3	47
		5	0	137·1	343·5		93·2	
		10	0	134·7	333·4		95·2	
		15	0	142·1	336·4		96·9	
		20	0	149·0	348·9		101·7	
		25	0	152·9	347·9		101·4	
		30	0	154·9	375·4		100·2	
		35	0	152·0	398·2		102·5	
		40	0	149·3	386·8		106·8	
		45	0	150·8	377·6		106·5	
		50	0	147·5	372·7		106·0	
		55	0	149·7	389·9		105·5	
	18	0	0	150·3	387·2	44	108·9	46
		5	0	147·5	384·2		108·6	
		10	0	140·7	362·3		100·5	
		15	0	124·3	343·0		87·4	
		20	0	110·7	313·3		72·1	
		25	0	147·5	416·6		70·8	
		30	0	105·2	376·7		50·2	
		35	0	75·3	332·7		53·3	
		40	0	98·5	344·8		81·1	
		45	0	120·8	388·4		87·5	

November 18, 19, and 20, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
18	18	50	0	124·8	373·5		81·7	
		55	0	131·3	369·8		80·9	
	19	0	0	139·8	378·2	45	79·7	46
		5	0	134·5	365·7		68·0	
		10	0	136·4	354·2		62·8	
		15	0	134·5	344·8		53·2	
		20	0	124·1	330·3		40·4	
		25	0	110·0	311·6		44·2	
		30	0	106·9	275·8		57·8	
		35	0	124·7	313·2		72·3	
		40	0	134·4	317·1		78·9	
		45	0	143·1	329·1		77·4	
		50	0	151·3	328·2		77·4	
		55	0	155·9	329·7		74·1	
	20	5	0	156·6	324·2	44	69·8	46
		10	0	152·5	320·0		68·3	
		15	0	152·0	334·9		67·9	
		20	0	155·0	352·1		67·4	
		25	0	162·8	382·6		72·4	
		30	0	165·7	381·5		74·2	
		35	0	170·3	378·7		74·8	
		40	0	172·1	371·7		73·9	
		45	0	170·6	355·1		72·8	
		50	0	165·8	337·8		69·1	
		55	0	161·8	337·2		64·9	
	21	0	0	162·1	357·1	44	72·6	46
		5	0	160·7	361·4		80·1	
		10	0	160·0	360·2		83·0	
		15	0	157·0	372·1		84·1	
		20	0	155·6	377·6		89·6	
		25	0	153·8	390·0		91·0	
		30	0	152·1	404·8		95·3	
		35	0	151·6	415·3		99·8	
		40	0	150·7	417·4		102·3	
		45	0	149·8	423·0		104·0	
		50	0	147·5	420·1		105·3	
		55	0	145·5	421·9		103·5	
	22	5	0	145·0	422·0	45	102·0	46
		10	0	147·0	424·9		102·3	
		15	0	147·2	429·3		101·8	
		20	0	149·2	433·9		102·1	

Positions at the usual hours of observation, November 18, 19, and 20.

18	0	0	0	140·9	468·0	45	105·2	46
	2	0	0	145·0	464·2	45	106·2	46
	4	0	0	140·6	465·0	46	104·2	46
	6	0	0	133·9	466·7	47	104·2	47
	8	0	0	125·8	462·2	48	105·8	48
	10	0	0	130·2	447·1	50	107·7	48
	12	0	0	140·0	447·1	49	136·5	49
	14	0	0	124·2	424·0	47	119·5	49
	16	0	0	131·3	394·5	45	51·6	47
	18	0	0	150·3	387·2	44	108·9	46
	20	0	0	158·4	330·9	44	71·1	46
	22	0	0	144·6	421·7	45	103·4	46
19	0	0	0	124·9	441·5	45	98·3	46

November 18, 19, and 20, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
19	2	0	0	144·1	451·1	44	107·1	45
	4	0	0	134·1	439·2	44	108·9	44
	6	0	0	132·2	443·2	44	108·9	45
	8	0	0	133·2	443·3	44	109·2	45
	10	0	0	136·8	453·4	45	111·7	45
	12	0	0	137·0	435·0	45	114·0	45
	14	0	0	156·8	421·8	45	116·7	45
	16	0	0	143·5	436·4	45	111·6	45
	18	0	0	129·8	422·0	45	85·1	46
	20	0	0	141·1	434·0	45	101·9	45
	22	0	0	137·1	431·0	45	101·5	45
20	0	0	0	126·4	437·1	44	83·8	46
	2	0	0	129·7	413·1	44	99·2	45
	4	0	0	127·3	450·5	45	106·0	45
	6	0	0	129·7	448·9	46	108·8	46
	8	0	0	134·6	451·2	47	107·9	47
	10	0	0	139·0	456·5	48	107·3	48
	12	0	0	157·0	438·9	48	106·9	48
	14	0	0	138·0	455·8	48	104·7	48
	16	0	0[c]	141·3	441·3	48	106·2	48

The Mean Positions at the same hours during the Month are given in page 95.

St. Helena { Decl. 1 Scale Division = 0′·711
H. F. k = ·000186; q = ·00025
V. F. k = ·00046; q =

Extra observations.

The V. F. was observed at 2^m. 30^s. before, and the H. F. 2^m. 30^s. after the times specified.

18	7	0	0	20·9	38·0	66		66
		5	0	20·9				
		10	0	21·0	37·1		56·0	
		15	0	21·5				
		20	0	21·1	36·4		56·2	
		25	0	21·2				
		30	0	21·2	35·9		56·2	
		35	0	21·3				
		40	0	21·4	35·7		56·2	
		45	0	20·9				
		50	0	20·8	35·8		56·1	
		55	0	20·1				
	8	5	0	19·4		66		66
		10	0	19·7	35·0		55·6	
		15	0	20·0				
		20	0	20·4	34·6		55·6	
		25	0	21·3				
		30	0	21·5	35·3		55·7	
		35	0	21·7				
		40	0	21·8	36·1		55·7	
		45	0	21·9				
		50	0	22·0	35·9		56·0	
		55	0	22·1				
	9	0	0	21·8	34·3	66	56·1	66
		5	0	21·5				
		10	0	21·3	32·9		56·5	

d. h. m.

18 18 27 About $\frac{1}{3}$ of the sky covered with remarkably bright patches, banks and streamers, very vivid pulsations. Streamers due North of a deep red colour, those to the East and West perfectly white.

35 Aurora decreasing very much in brilliancy; no pulsations.

40 Nothing remaining but a bright luminous haze covering about $\frac{2}{3}$ of the North sky; clouding rapidly over from S.E.

45 Totally clouded, except about $\frac{1}{3}$ in North. Nothing visible of Aurora but a faint light.

19 15 Wind North by West, moderate; densely clouded.

[a] The readings of the Decl. magnet between 16^h. 15^m. and 16^h. 20^m. at intervals of 18^s. (the time of vibration of the bar), were as follows: 83·2; 53·4; 60·0; 40·0; 20·0; 11·4; 9·4.

[b] A light held in the prolongation of the scale showed that the reading would have been about −200 if the scale had been continued.

[c] Saturday midnight at Toronto.

| November 18, 19, and 20, 1841. | | |

November 18, 19, and 20, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
19	3	20	0	24·0	34·5		56·3	
		25	0	24·0				
		30	0	23·9	34·1		56·0	
		35	0	23·5				
		40	0	23·5	34·1		56·0	
		45	0	23·6				
		50	0	23·9	34·8		56·1	
		55	0	23·8				
	4	5	0	23·4		67		66
		10	0	23·1	34·9		56·2	
		15	0	23·1				
		20	0	23·0	35·0		56·4	
		25	0	23·0				
		30	0	23·0	35·0		56·6	
		35	0	22·9				
		40	0		35·0			
		45	0	22·4				
		50	0	22·3	35·1		56·8	
		55	0	22·1				

Positions at the usual hours of observation, November 18, 19, and 20.

18	0	0	0	24·0	54·0	65	53·6	65
	2	0	0	26·4	51·2	66	55·1	65
	3	0	0	25·5	49·1	66	55·5	66
	4	0	0	23·3	47·0	67	55·3	66
	5	0	0	21·9	44·8	67	56·2	66
	6	0	0	21·7	41·9	67	56·7	66
	8	0	0	19·6	35·6	66	55·5	66
	10	0	0	19·5	26·4	66	55·9	65
	11	0	0	18·0	21·0	65	55·4	65
	12	0	0	18·1	28·5	65	55·5	65
	13	0	0	21·7	25·1	65	55·6	65
	14	0	0	18·8	25·9	65	55·2	64
	15	0	0	18·0	25·9	65	55·0	64
	16	0	0	16·8	27·9	65	55·7	64
	18	0	0	18·1	31·2	65	56·2	64
	19	30	0	14·6	33·2	65	55·3	64
	20	0	0	14·8	34·3	65	56·7	64
	20	30	0	14·2	35·0	64	57·0	64
	22	0	0	15·7	37·9	64	56·7	63
	23	0	0	17·1	38·8	64	55·8	64
19	0	0	0	20·0	35·0	65	55·1	64
	2	0	0	22·9	35·2		55·1	65
	3	0	0	24·0	34·0	66	56·0	66
	4	0	0	23·5	34·9	67	56·2	66
	5	0	0	22·0	35·5	67	56·8	67
	6	0	0	21·4	34·3	67	57·2	67
	7	0	0	22·1	35·1	67	56·1	66
	8	0	0	24·5	36·3	66	56·7	66
	9	0	0	23·1	38·0	65	56·0	65
	10	0	0	23·6	36·0	65	56·0	65
	11	0	0	23·0	33·1	65	55·8	65
	12	0	0	22·0	34·9	65	55·5	65
	13	0	0	23·0	34·0	65	55·5	64
	14	0	0	21·5	40·9	65	55·0	64
	15	0	0	20·9	40·9	65	55·4	64
	16	0	0	20·0	40·0	64	54·7	64
	19	30	0	20·9	40·8	64	55·1	63
	20	0	0	20·0	41·0	64	55·1	63
	20	30	0	19·0	38·8	63	54·6	63
	22	0	0	18·9	38·8	63	54·1	63
	23	0	0	18·5	38·5	64	53·4	63

November 18, 19, and 20, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
20	0	0	0	20·2	40·0	64	53·5	64
	2	0	0	21·6	34·7	66		
	3	0	0	22·1	32·0	66	56·0	65
	4	0	0	19·8	33·5	66	55·9	65
	5	0	0	21·9	36·0	66	55·9	66
	6	0	0	20·8	35·2	66	55·5	65
	8	0	0	23·0	37·9	65	55·1	65
	10	0	0	23·9	40·0	65	54·1	64
	11	0	0	23·8	42·7	65	53·6	64
	12	0	0	23·8	44·4	64	53·8	64
	13	0	0[a]	23·0	41·7	64		

The Mean Positions during the Month are given in page 95.

Cape of Good Hope
Decl. 1 Scale Division = 0′·75
H. F. k = ·000180; q = ·0003
V. F. k = ·000047; q =

Positions at the usual hours of observation, November 18, 19, and 20.

18	0	0	0	55·5	75·9	63	68·2	63
	1	0	0	56·0	76·0	63		
	2	0	0	55·9	74·0	64	87·2	63
	3	0	0	54·5	73·2	64		
	4	0	0	52·9	71·5	64	99·0	64
	5	0	0	51·1	70·0	65		
	6	0	0	50·9	67·1	65	106·8	64
	7	0	0	49·0	62·8	65		
	8	0	0	45·0	62·9	65	124·2	64
	9	0	0	50·0	62·4	64		
	10	0	0	45·2	56·3	64	127·9	64
	11	0	0	42·8	54·4	64		
	12	0	0	44·5	62·7	64	114·8	64
	13	0	0	47·1	62·0	64		
	14	0	0	41·8	66·2	64	119·2	64
	15	0	0	40·0	67·5	64		
	16	0	0	41·1	68·0	63	106·8	63
	17	0	0	43·0	71·8	63		
	18	0	0	43·3	67·0	63	100·3	63
	19	0	0	42·2	63·0	63		
	20	0	0	43·9	59·9	63	101·2	63
	21	0	0	44·2	59·3	63		
	22	0	0	43·2	58·7	63	84·0	63
	23	0	0	47·0	57·0	63		
19	0	0	0	51·1	52·2	63	85·6	63
	1	0	0	51·6	53·8	63		
	2	0	0	53·0	56·8	64	85·8	63
	3	0	0	52·0	57·0	64		
	4	0	0	51·9	58·0	64	94·0	64
	5	0	0	50·8	60·3	64		
	6	0	0	50·0	61·7	64	99·4	64
	7	0	0	52·4	63·0	64		
	8	0	0	51·9	66·5	63	89·9	63
	9	0	0	51·0	69·5	63		
	10	0	0	50·5	68·5	63	99·6	63
	11	0	0	49·0	66·4	63		
	12	0	0	48·2	68·0	63	112·8	63
	13	0	0	49·9	78·2	63		
	14	0	0	47·4	74·4	62	94·7	63
	15	0	0	46·9	73·9	63		
	16	0	0	45·3	72·7	62	98·4	63
	17	0	0	45·0	73·2	62		

November 18, 19, and 20, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
19	18	0	0	48·3	73·4	62	105·2	62
	19	0	0	48·8	74·3	62		
	20	0	0	45·9	74·5	62	97·1	62
	21	0	0	45·0	69·1	63		
	22	0	0	46·0	64·9	63	88·0	63
	23	0	0	48·0	60·8	63		
20	0	0	0	48·4	61·1	64	85·4	63
	1	0	0	51·2	67·8	64		
	2	0	0	53·0	58·6	65	74·9	64
	3	0	0	50·6	57·1	65		
	4	0	0	49·0	57·2	65	107·6	65
	5	0	0	49·5	61·2	66		
	6	0	0	49·0	60·5	65	93·9	65
	7	0	0	50·5	63 5	65		
	8	0	0	51·5	63·2	65	83·8	65
	9	0	0	52·0	64·6	65		
	10	0	0	52·0	68·1	64	84·7	64
	11	0	0[b]	52·0	71·4	64		

The Mean Positions at the same hours are given in page 96.

Van Diemen Island
Decl. 1 Scale Division = 0′·71
H. F. k = ·0003; q =
V. F. k = ; q =

Extra observations.

The V. F. was observed at 2^m. 30^s. before, and the H. F. 2^m. 30^s. after the times specified.

18	8	10	0	57·5	68·1	57		55
		15	0	55·5				
		20	0	53·0	67·2		30·3	
		25	0	52·3				
		30	0	51·6	66·8		27·8	
		35	0	51·1				
		40	0	50·4	66·9		27·0	
		45	0	49·8				
		50	0	49·9	66·9		26·3	
		55	0	49·5				
	9	5	0	53·7		57		55
		10	0	54·0	68·4		28·0	
		15	0	55·3				
		20	0	55·3	67·5		27·6	
		25	0	55·3				
		30	0	53·9	65·6		27·8	
		35	0	53·1				
		40	0	53·6	64·9		28·6	
		45	0	53·6				
		50	0	53·5	62·3		31·1	
19	2	10	0		61·6	65		63
		15	0	49·8				
		20	0	48·7	59·4		18·7	
		25	0	46·3				
		30	0	46·7	63·7		18·7	
		35	0	49·5				
		40	0	50·4	59·8		17·4	
		45	0	44·8				
		50	0	39·8	58·1		15·8	
	3	5	0	40·2		64		64
		10	0	41·1	61·0		16·6	
		15	0	41·3				
		20	0	40·0	59·5		16·9	
		25	0	40·3				
		30	0	39·3	58·9		17·5	

[a] Saturday midnight at St. Helena.

[b] Saturday midnight at the Cape of Good Hope.

November 18, 19, and 20, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. ○	Sc.-Div^{ns}.	Ther. ○
19	3	35	0	38·8				
		40	0	38·9	58·2		18·7	
		45	0	38·6				
		50	0	38·2	57·0		19·8	
		55	0	38·1				
	4	10	0	38·0	55·8	64		64
		15	0[a]	38·7				
		20	0	38·6	55·4		24·2	
		25	0	39·1				
		30	0	39·9	55·6		25·5	
		35	0	40·6				
		40	0	41·0	56·0		26·6	
		45	0	42·0				
		50	0	44·4	57·1		27·5	
	5	5	0	46·7				
		10	0	46·7	57·8		28·0	
		15	0[b]	46·6				

Positions at the usual hours of observation, November 18, 19, and 20.

18	0	0	0	44·1	66·0	59	31·6	58
	1	0	0	45·0	64·7		34·1	
	2	0	0	42·4	64·3	58	32·8	57
	3	0	0	44·3	64·4		35·6	
	4	0	0	46·2	65·6	58	35·2	57
	5	0	0	47·2	65·3		35·2	
	6	0	0	48·2	65·3	57	35·1	56
	7	0	0	50·8	65·0		35·2	
	8	0	0	63·7	67·1	57	43·1	55
	9	0	0	50·9	67·4		27·5	
	10	0	0	53·0	61·8	58	33·0	56
	11	0	0	48·4	55·7		35·5	
	12	0	0	46·3	51·1	58	39·6	57
	13	0	0	44·4	50·0		32·9	
	14	0	0	47·4	58·1	61	34·0	60
	15	0	0	54·7	47·9		36·6	
	16	0	0	61·0	51·6	63	35·8	62
	17	0	0	57·2	57·5		34·2	
	18	0	0	62·3	56·3	67	34·4	65
	19	0	0	58·7	57·7		35·9	
	20	0	0	55·2	57·7	68	38·8	64
	21	0	0	60·6	53·2		42·5	
	22	0	0	52·9	52·8	68	35·6	65
	23	0	0	48·2	53·3		32·2	
19	0	0	0	37·4	50·6	67	29·0	64
	1	0	0	37·0	52·6		29·7	

November 18. 19, and 20, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. ○	Sc.-Div^{ns}.	Ther. ○
19	2	0	0	50·4	61·3	65	27·6	63
	3	0	0	38·3	61·5		16·6	
	4	0	0	38·5	56·3	64	21·7	64
	5	0	0	47·5	57·4		28·8	
	6	0	0	48·1	57·8	63	29·6	62
	7	0	0	45·6	59·0		27·4	
	8	0	0	44·2	58·9	62	27·3	61
	9	0	0	42·4	58·4		28·1	
	10	0	0	39·9	58·6	64	29·0	63
	11	0	0	41·7	58·1		30·1	
	12	0	0	41·1	54·0	65	27·8	63
	13	0	0	45·9	52·7		26·4	
	14	0	0	53·4	54·6	68	22·2	67
	15	0	0	57·7	58·0		15·8	
	16	0	0	62·5	57·4	70	17·6	69
	17	0	0	63·7	57·9		21·1	
	18	0	0	61·9	55·7	73	23·9	70
	19	0	0	56·6	56·1		20·9	
	20	0	0	54·6	56·0	72	20·6	69
	21	0	0	51·0	54·8		25·6	
	22	0	0	49·4	55·3	68	25·9	67
	23	0	0	48·0	57·3		25·8	
20	0	0	0	41·8	52·2	66	20·4	65
	1	0	0	42·8	56·6		23·9	
	2	0	0[c]	44·6	65·0	65	14·4	64

The Mean Positions at the same hours during the Month are given in page 96.

December 2, 3, and 4, 1841.

Toronto * { Decl. 1 Scale Division = 0′·72; H. F. k = ·000076; q = ·0002; V. F. k = ·000092; q = ·00018

Positions at the usual hours of observation, from December 2nd, 12^h. to December 4th, 16^h.

2	12	0	0	56·9	83·5	47	54·4	47
	14	0	0	55·0	59·7	47	57·7	47
	16	0	0	60·8	63·2	47	56·4	47
	18	0	0	64·1	61·1	47	50·0	47
	20	0	0	57·8	55·6	47	46·0	47
	22	0	0	46·2	25·9	46	40·6	47
3	0	0	0	62·0	96·5	46	48·2	47
	2	0	0	48·5	39·3	46	51·5	47
	4	0	0	42·9	66·6	46	50·0	46

December 2, 3, and 4, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. ○	Sc.-Div^{ns}.	Ther. ○
3	6	0	0	47·5	46·9	46	56·1	47
	8	0	0	50·2	69·1	47	57·3	47
	10	0	0	56·4	65·1	47	55·6	47
	12	0	0	66·9	49·5	47	57·7	47
	14	0	0	61·2	44·0	48	57·1	48
	16	0	0	50·0	49·4	48	49·9	48
	18	0	0	60·2	57·8	49	53·2	49
	20	0	0	53·9	60·5	49	42·3	48
	22	0	0	58·0	63·8	49	51·0	48
4	0	0	0	51·9	64·7	48	49·7	49
	2	0	0	58·8	78·8	47	51·5	48
	4	0	0	54·0	50·4	47	51·9	48
	6	0	0	52·5	53·2	47	53·3	47
	8	0	0	53·0	58·9	46	56·0	47
	10	0	0	55·0	69·4	46	56·0	47
	12	0	0	61·7	59·2	46	58·7	46
	14	0	0	58·3	72·4	46	57·3	47
	16	0	0	58·9	76·5	46	56·6	46

Mean Positions at the same hours during the Month.

	0	0	0	58·5	93·0	41	58·9	42
	2	0	0	56·9	88·1	41	60·0	42
	4	0	0	56·9	82·7	41	59·1	41
	6	0	0	52·0	73·2	42	59·6	42
	8	0	0	50·8	80·3	43	60·4	42
	10	0	0	54·5	84·1	43	60·1	43
	12	0	0	59·8	81·5	43	61·0	43
	14	0	0	60·2	82·1	43	59·9	43
	16	0	0	58·6	82·9	42	58·9	43
	18	0	0	58·1	84·9	42	59·4	42
	20	0	0	56·5	84·6	42	58·0	42
	22	0	0	57·6	86·1	41	58·7	42

St. Helena.[d]

Cape of Good Hope { Decl. 1 Scale Division = 0′·75; H. F. k = ·000180; q = ·0003; V. F. [e]

Positions at the usual hours of observation, from December 2nd, 12^h., to December 4th, 11^h.

2	12	0	0	52·5	75·1	67		
	13	0	0	50·2	79·8	67		
	14	0	0	49·7	75·5	66		
	15	0	0	48·8	75·2	66		

[a] No Aurora visible.
[b] During these observations the Decl. bar had a constant slight vertical motion.
[c] Saturday midnight at Van Diemen Island.

* Toronto, December, 1841.—*Times of observation at which the Magnetometers were disturbed, but the mean readings were not materially changed.*

d.	h.	
Dec. 4	4	H. F. vibrating moderately.
6	10	H. F. slight vibrations and strong shocks.
	12	H. F. moderate shocks.
7	22	Decl. and H. F. moderate shocks.
8	4	Decl. and H. F. moderate shocks.
	14	H. F. vibrating slightly.
9	0	Decl. and H. F. moderate shocks.
	2	Decl. and H. F. moderate shocks.
12	18	H. F. slightly vibrating.
	20	H. F. vibrating slightly.
	22	V. F. vibrating slightly; H. F. moderately.
13	6	H. F. much disturbed by vibrations.
14	6	H. F. considerable shocks.
	10	H. F. vibrating slightly.
16	12	Decl. and H. F. moderate vibrations and shocks.
	18	Decl. and V. F. vibrating very much.
	20	Decl. and V. F. slight vibrations; H. F. moderate vibrations.
	22	Decl. slightly vibrating; H. F. moderately.
17	0	Decl. vibrating very much; H. F. slightly.
	2	Decl. and H. F. vibrating very much; V. F. slightly.
	4	Decl. and H. F. vibrating very much; V. F. slightly.
	6	Decl. and H. F. vibrating very much; V. F. slightly.
	8	Decl. and H. F. moderate vibrations and shocks.
	10	Decl. and H. F. slight shocks.
	12	Decl. moderate vibrations.
	16	Decl. vibrating slightly; H. F. very much with shocks.
	18	Decl. vibrating slightly; H. F. very much.
	20	Decl. slight vibrations; H. F. very much with shocks.
19	18	H. F. vibrating much.
	20	Decl. and H. F. vibrating very much with shocks.
	22	Decl. and H. F. slight vibrations and shocks.
20	0	Decl. and H. F. vibrating slightly.
	2	Decl. and H. F. moderate vibrations and shocks.
	4	H. F. moderate shocks.
	12	H. F. slight shocks.
	16	Decl. slight shocks.

[d] The magnetometers at St. Helena were employed in temperature experiments.
[e] The V. F. magnet was not in satisfactory adjustment.

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December 2, 3, and 4, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
2	16	0	0	47·9	75·6	66		
	17	0	0	47·0	78·5	66		
	18	0	0	46·1	79·0	66		
	19	0	0	45·8	80·0	66		
	20	0	0	43·4	83·1	66		
	21	0	0	43·1	78·9	66		
	22	0	0	42·0	73·0	67		
	23	0	0	44·9	65·9	67		
3	0	0	0	47·4	69·4	68		
	1	0	0	48·8	69·0	68		
	2	0	0	50·4	61·0	69		
	3	0	0	49·0	49·0	69		
	4	0	0	45·9	56·6	69		
	5	0	0	46·0	54·1	69		
	6	0	0	40·2	53·1	69		
	7	0	0	46·0	61·2	69		
	8	0	0	44·9	59·8	68		
	9	0	0	44·7	60·9	68		
	10	0	0	44·5	64·0	68		
	11	0	0	45·1	68·2	68		
	12	0	0	43·4	69·0	67		
	13	0	0	52·5	68·8	67		
	14	0	0	42·4	67·0	67		
	15	0	0	41·6	68·5	67		
	16	0	0	40·8	68·9	66		
	17	0	0	41·0	71·6	66		
	18	0	0	39·7	72·9	66		
	19	0	0	39·1	73·5	66		
	20	0	0	37·2	72·3	66		
	21	0	0	38·1	71·2	66		
	22	0	0	40·0	68·7	67		
	23	0	0	42·0	66·5	67		
4	0	0	0	43·1	64·2	68		
	1	0	0	45·0	60·8	68		
	2	0	0	45·0	65·1	68		
	3	0	0	56·4	67·0	68		
	4	0	0	44·8	63·8	68		
	5	0	0	42·8	60·2	69		
	6	0	0	42·4	63·2	69		
	7	0	0	44·0	64·8	68		
	8	0	0	39·8	66·8	68		
	9	0	0	45·0	66·5	67		
	10	0	0	44·2	67·8	67		
	11	0	0	48·5	72·1	67		

Mean Positions at the same hours during the Month.

	0	0	0	45·0	74·6	66		
	1	0	0	46·6	73·6	67		
	2	0	0	46·5	71·6	67		
	3	0	0	46·5	70·8	68		
	4	0	0	45·0	70·9	68		
	5	0	0	45·0	69·8	68		
	6	0	0	44·4	68·3	68		
	7	0	0	44·8	68·6	68		
	8	0	0	44·7	68·5	67		
	9	0	0	44·6	69·4	67		
	10	0	0	44·7	71·0	67		
	11	0	0	44·8	72·2	67		
	12	0	0	45·6	73·6	66		
	13	0	0	44·7	74·1	66		
	14	0	0	44·1	73·9	66		
	15	0	0	43·6	74·8	66		

December 2, 3, and 4, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
	16	0	0	43·1	75·4	66		
	17	0	0	42·3	76·9	66		
	18	0	0	41·1	78·5	65		
	19	0	0	40·1	79·5	65		
	20	0	0	39·7	78·9	65		
●	21	0	0	40·0	78·3	65		
	22	0	0	41·8	76·3	66		
	23	0	0	43·6	75·1	66		

Van Diemen Island { Decl. 1 Scale Division = 0′·71
H. F. k = ·0003; q =
V. F. k = ; q =

Extra observations.

The V. F. was observed at 2^m. 30^s. before, and the H. F. 2^m. 30^s. after the times specified.

3	2	15	0	48·9		60		59
		20	0	48·9	50·5		63·2	
		25	0	47·3				
		30	0	48·4	53·5		62·1	
		35	0	50·0				
		40	0	52·6	51·9		58·0	
		45	0	52·7				
		50	0	50·7			57·9	
	3	10	0	55·0	43·9	60		59
		15	0	55·2				
		20	0	56·5	44·9		70·9	
		25	0	57·9				
		30	0	58·2	45·0		71·6	
		35	0	58·4				
		40	0	58·1	44·9		71·6	
		45	0	58·2				
		50	0	58·3	45·0		71·6	
		55	0	57·8				
	4	5	0	58·0		60		60
		10	0	58·0	45·0		71·7	
		15	0	58·0				
		20	0	58·1	44·9		71·9	
		25	0	57·3				
		30	0	57·7	46·7		71·6	
		35	0	58·3				
		40	0	58·6	48·1		66·6	
		45	0	59·3				
		50	0	59·7	49·0		66·6	
		55	0	60·1				
	5	5	0	58·7		60		60
		10	0	58·4	48·9		65·2	
		15	0	58·4				
		20	0	58·3	48·0		65·2	
		25	0	58·7				
		30	0	59·7	47·6		68·7	
		35	0	61·2				
		40	0	63·3	47·7		70·0	
		45	0	65 3				
		50	0	67·7			71·6	
		55	0	68·9				
	6	10	0	72·6	47·1	60		59
		15	0	72·6				
		20	0	72·7	46·7		71·7	
		25	0	71·5				

December 2, 3, and 4, 1841.

Positions at the usual hours of observation, from December 2nd, 12^h., to December 4th, 2^h.[a]

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
2	12	0	0	62·1	48·8	56	80·9	56
	13	0	0	64·8	44·2		83·1	
	14	0	0	73·0	45·5	58	79·0	58
	15	0	0	78·5	47·1		77·4	
	16	0	0	85·0	50·5	60	76·0	59
	17	0	0	88·8	55·6		73·1	
	18	0	0	88·8	52·1	61	77·1	60
	19	0	0	84·5	52·3		74·7	
	20	0	0	82·3	52·7	62	72·7	61
	21	0	0	81·3	50·8		76·6	
	22	0	0	78·0	50·4	61	76·3	61
	23	0	0	69·2	45·9		77·1	
3	0	0	0	72·4	47·6	61	79·0	60
	1	0	0	73·2	47·9		78·6	
	2	0	0	65·5	44·4	60	73·8	59
	3	0	0	53·2	45·4		63·6	
	4	0	0	58·0	45·3	60	71·6	60
	5	0	0	58·9	48·3		65·2	
	6	0	0	70·4	47·1	60	71·7	59
	7	0	0	70·1	47·2		71·0	
	8	0	0	70·1	48·4	58	73·2	57
	9	0	0	66·2	48·2		77·5	
	10	0	0	63·8	45·8	57	77·4	56
	11	0	0	64·2	45·1		78·9	
	12	0	0	64·2	43·5	58	79·4	57
	13	0	0	67·3	43·6		79·4	
	14	0	0	73·4	45·3	61	75·3	59
	15	0	0	80·1	46·2		73·2	
	16	0	0	83·6	48·3	62	72·4	61
	17	0	0	84·2	48·6		72·2	
	18	0	0	83·7	49·5	64	72·6	62
	19	0	0	82·6	47·3		73·8	
	20	0	0	77·3	47·8	64	71·8	62
	21	0	0	76·6	47·8		76·2	
	22	0	0	76·2	48·8	64	74·3	61
	23	0	0	74·1	51·7		68·6	
4	0	0	0	70·7	49·1	62	72·6	60
	1	0	0	68·4	46·4		76·4	
	2	0	0	71·1	48·0	61	75·5	59

Mean Positions at the same hours during the Month.

	0	0	0	75·2	47·9	65	69·0	63
	1	0	0	74·0	48·3		69·8	
	2	0	0	73·1	48·2	63	70·3	62
	3	0	0	72·0	48·5		70·6	
	4	0	0	73·1	48·9	62	71·8	61
	5	0	0	72·4	49·2		72·6	
	6	0	0	73·3	49·6	60	74·4	59
	7	0	0	72·9	49·7		74·6	
	8	0	0	73·0	49·6	60	75·5	58
	9	0	0	71·5	49·8		75·7	
	10	0	0	69·2	49·3	59	75·0	58
	11	0	0	68·0	48·1		74·7	
	12	0	0	67·9	46·7	61	73·8	60
	13	0	0	70·3	45·3		72·7	
	14	0	0	74·4	45·2	63	71·7	63
	15	0	0	78·6	45·7		69·9	
	16	0	0	82·0	47·0	66	68·1	64
	17	0	0	84·0	48·1		66·7	
	18	0	0	83·7	48·7	67	66·0	65

[a] Saturday midnight at Van Diemen Island.

December 2, 3, and 4, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
	19	0	0	82·0	48·3		65·5	
	20	0	0	80·0	47·7	68	65·5	66
	21	0	0	78·3	47·2		66·4	
	22	0	0	76·6	47·3	67	67·0	65
	23	0	0	75·9	47·8		67·6	

December 8, 1841.

Toronto { Decl. 1 Scale Division = 0′·72; H. F. k = ·000076; q = ·0002; V. F. k = ·000092; q = ·00018

Positions at the usual hours of observation, December 8.

8	0	0	0	68·4	79·4	43	54·6	44
	2	0	0	58·2	82·0	42	57·2	43
	4	0	0	41·2	23·7	44	56·5	44
	6	0	0	42·8	35·2	45	60·7	45
	8	0	0	44·8	58·1	46	62·2	45
	10	0	0	51·8	72·2	46	61·0	46
	12	0	0	59·8	73·0	46	58·4	46
	14	0	0	61·3	67·0	47	55·2	47
	16	0	0	58·0	68·0	47	54·5	47
	18	0	0	56·0	70·0	47	55·5	47
	20	0	0	58·5	69·9	47	54·4	47
	22	0	0	57·1	70·4	48	53·3	48

The Mean Positions at the same hours during the Month, are given in page 101.

St. Helena { Decl. 1 Scale Division = 0′·71; H. F. k = ·000189; q = ·00025; V. F. k = ·00047; q =

Extra observations.

The V. F. was observed at 2^m. 30^s. before the times specified.

8	4	10	0	[a]	39·4	68		
		15	0		39·5			
		20	0		39·1		55·1	67
		25	0		39·2			
		30	0		39·0		55·0	
		35	0		38·1			
		40	0		37·6		54·3	
		45	0		37·2			
		50	0		36·5		54·0	
		55	0		36·2			
	5	0	0		36·0	68	53·5	67
		5	0		35·9			
		10	0		35·9		53·7	
		15	0		35·9			
		20	0		35·2		53·7	
		25	0		35·2			
		30	0		35·1		53·3	
		35	0		35·1			
		40	0		34·6		54·6	
		45	0		34·8			
		50	0		34·9		54·6	
		55	0		34·8			
	6	0	0		34·8	68	54·2	67
		5	0		34·4			
		10	0		34·2		54·4	
		15	0		33·9			

[a] The Decl. magnet was not in adjustment at St. Helena, on December 8th.

December 8, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
8	6	20	0		34·0		54·3	
		25	0		33·8			
		30	0		34·0			
		35	0		34·0			
		40	0		34·7			
		45	0		34·8			
		50	0		34·9			
		55	0		34·9			
	7	0	0		35·0	68		
		5	0		35·0			
		10	0		34·9		53·6	
		15	0		34·9			
		20	0		35·0		52·1	
		25	0		35·0			
		30	0		35·0		51·2	
		35	0		35·2			
		40	0		35·3		51·2	
		45	0		35·8			
		50	0		36·1		51·2	
		55	0		36·2			

Positions at the usual hours of observation, December 8.

8	0	0	0	[a]	55·2	67	53·1	66
	2	0	0		49·7	67	53·0	67
	3	0	0		44·6	68		67
	4	0	0		38·4	68	54·9	67
	5	0	0		36·0	67	53·5	67
	6	0	0		34·8	68	54·2	67
	8	0	0		36·0	68	52·0	67
	10	0	0		39·6	67	52·2	66
	11	0	0		44·0	67	51·9	66
	12	0	0		46·1	67	51·5	66
	13	0	0		49·0	67	51·2	65
	14	0	0		50·7	66	51·1	65
	15	0	0		52·3	66	51·1	65
	16	0	0		52·5	66	50·8	65
	18	0	0		52·1	66	50·8	65
	19	30	0		52·2	66	50·0	65
	20	0	0		52·9	66	50·0	65
	20	30	0		53·2	66	48·2	65
	22	0	0		56·0	66	48·1	65
	23	0	0		57·0	66	48·1	65

The Mean Positions of the H. F. magnetometers at the same hours during the Month, are given under date December 14.

Island of Ascension [b] { Decl. 1. Scale Division = 2′·98; H. F. k = ·0003; q =

Positions at the usual hours of observation, December 8.

8	0	0	0	48·3	47·9	82		
	1	0	0	47·2	51·0	82		
	2	0	0	46·8	46·2	82		
	3	0	0	46·3	39·9	82		
	4	0	0	46·0	37·5	82		
	5	0	0	45·0	35·7	82		
	6	0	0	46·0	35·4	82		
	7	0	0	46·2	36·0	81		
	8	0	0	47·1	36·7	80		
	9	0	0	47·7	37·8	81		

[b] Observations made by Captain William Allen, R.N., Commanding H.M. Steamer Wilberforce, with Weber's transportable magnetometer.

December 8, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
8	10	0	0	47·0	39·6	81		
	11	0	0	48·2	40·3	81		
	12	0	0	48·9	43·8	81		
	15	0	0	49·0	48·4	79		
	16	0	0	48·9	48·6	79		
	17	0	0	49·0	48·1	79		
	18	0	0	49·0	48·0	79		
	19	0	0	49·2	47·5	79		
	20	0	0	48·8	48·6	79		
	21	0	0	48·3	50·0	79		
	22	0	0	48·3	50·2	81		
	23	0	0	48·0	49·7	80		

Mean Positions at the same hours from the 5th to the 12th December inclusive.

	0	0	0	48·6	57·7	81		
	1	0	0	48·2	56·9	81		
	2	0	0	46·4	54·9	81		
	3	0	0	47·7	52·3	81		
	4	0	0	46·7	47·3	82		
	5	0	0	46·6	45·0	82		
	6	0	0	47·0	45·6	82		
	7	0	0	47·4	45·8	81		
	8	0	0	47·7	46·0	81		
	9	0	0	48·1	46·7	80		
	10	0	0	48·8	47·0	80		
	11	0	0	48·7	47·8	80		
	12	0	0	48·6	47·6	80		
	13	0	0	48·6	48·3	80		
	14	0	0	49·1	49·0	80		
	15	0	0	49·6	48·8	80		
	16	0	0	49·4	49·0	80		
	17	0	0	49·5	49·0	80		
	18	0	0	49·3	49·0	80		
	19	0	0	49·3	49·2	80		
	20	0	0	49·1	50·6	79		
	21	0	0	49·0	51·6	79		
	22	0	0	49·0	53·6	80		
	23	0	0	48·8	57·3	80		

Cape of Good Hope { Decl. 1 Scale Division = 0′·75; H. F. k = ·00018; q =; V. F. k = ·000035; q =

Positions at the usual hours of observation, December 8.

8	0	0	0	45·0	74·7	64	138·8	64
	1	0	0	46·8	74·8	65		
	2	0	0	46·7	68·2	65	146·3	65
	3	0	0	45·4	61·2	65		
	4	0	0	43·1	57·8	66	182·6	65
	5	0	0	42·9	54·1	66		
	6	0	0	44·5	53·0	66	172·0	65
	7	0	0	44·4	55·8	66		
	8	0	0	44·5	57·7	66	156·2	65
	9	0	0	44·4	62·0	65		
	10	0	0	43·9	66·0	65	148·6	65
	11	0	0	45·0	70·2	65		
	12	0	0	45·5	73·0	64	126·3	64
	13	0	0	44·3	74·7	64		

December 8, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
8	14	0	0	42·8	75·6	64	135·8	64
	15	0	0	42·0	78·3	64		
	16	0	0	41·1	78·5	64	142·7	63
	17	0	0	39·8	78·4	63		
	18	0	0	38·8	78·2	63	155·4	63
	19	0	0	37·7	77·6	63		
	20	0	0	38·0	76·7	63	155·3	63
	21	0	0	39·3	77·7	63		
	22	0	0	42·1	77·6	63	107·0	63
	23	0	0	45·1	77·6	64		

The Mean Positions at the same hours during the Month are given in page 102.

Van Diemen Island { Decl. 1 Scale Division = 0′·71; H. F. k = ·0003; q = ; V. F. k = ; q =

Extra observations.

The V. F. was observed at 2^m. 30^s. before, and the H. F. 2^m. 30^s. after the times specified.

8	2	15	0	61·0		67		65
		20	0	60·6	41·5		65·2	
		25	0	61·8				
		30	0	63·7	42·2		65·7	
		35	0	63·3				
		40	0	62·4	43·8		64·1	
		45	0	65·0				
		50	0	64·7	42·5		62·6	
		55	0	61·2				
	3	10	0	64·5	45·6	67	58·0	66
		15	0	65·7				
		20	0	69·3	45·5		58·4	
		25	0	75·7				
		30	0	78·7	46·9		62·2	
		35	0	77·8				
		40	0	70·3	45·5		59·8	
		45	0	67·5				
		50	0	66·0	43·1		55·2	
	4	10	0	65·2	39·2	67		66
		15	0	62·6				
		20	0	60·1	37·4		59·9	
		25	0	56·6				
		30	0	55·4	39·3		59·9	
		35	0	54·5				
		40	0	53·2	40·3		58·8	
		45	0	52·8				
		50	0	52·5	42·3		56·6	
	5	15	0	52·3		66		66
		20	0	52·1	43·3		52·2	
		25	0	51·2				
		35	0	50·6				
		40	0	51·3	42·1		53·4	
		45	0	52·0				
		50	0	52·2	42·3		55·2	
	6	10	0	54·8	41·7	66		65
		15	0	55·0				
		20	0	56·4	41·1		59·6	
		25	0	57·6				
		30	0	58·5	41·7		61·5	
		35	0	60·0				
		40	0	60·5	42·5		62·0	
		45	0	60·4				

December 8, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
8	6	50	0	60·9	43·1		62·0	
	7	10	0	60·3	44·0	65		65
		15	0	59·7				
		20	0	60·8	44·2		60·7	
		25	0	62·4				
		30	0	62·5	44·2		62·7	
		35	0	62·8				
		40	0	63·6	44·3		62·7	
		45	0	62·9				
		50	0	63·1	44·1		62·7	
		55	0	62·9				

Positions at the usual hours of observation, December 8.

8	0	0	0	67·4	43·3	69	67·8	66
	1	0	0	65·7	46·0		63·0	
	2	0	0	60·6	42·3	67	64·5	65
	3	0	0	57·7	45·1		58·8	
	4	0	0	65·2	41·4	67	57·1	66
	5	0	0	52·5	43·3		54·3	
	6	0	0	53·0	42·1	66	56·1	65
	7	0	0	61·7	43·8		61·6	
	8	0	0	63·4	44·1	65	63·7	64
	9	0	0	66·1	44·7		65·0	
	10	0	0	68·3	42·4	66	67·8	64
	11	0	0	64·4	40·5		69·8	
	12	0	0	63·9	40·5	66	67·9	64
	13	0	0	68·0	39·8		65·9	
	14	0	0	72·6	40·8	66	66·7	64
	15	0	0	79·0	43·6		65·8	
	16	0	0	82·4	44·9	66	66·0	65
	17	0	0	85·4	47·2		66·0	
	18	0	0	84·7	48·0	66	67·4	65
	19	0	0	82·3	47·2		67·4	
	20	0	0	76·7	47·3	67	64·6	65
	21	0	0	76·0	46·7		67·4	
	22	0	0	75·0	47·6	66	68·3	64
	23	0	0	74·8	46·9		70·0	

The Mean Positions at the same hours during the Month are given in page 102.

December 14, 1841.

Toronto { Decl. 1 Scale Division = 0′·72; H. F. k = ·000076; q = ·0002; V. F. k = ·000092; q = ·00018

Extra observations.

The V. F. was observed at 1^m. 30^s. before, and the H. F. 2^m. after the times specified.

14	12	10	0	63·1	19·5	49	62·2	49
		15	0	59·3	27·1		63·1	
		20	0	52·7	35·6		61·9	
		25	0	49·9	41·0		61·4	
		30	0	49·3	42·0		59·0	
		35	0	51·5	42·7		57·9	
		40	0	55·6	45·1		56·1	
		45	0	57·1	43·9		54·4	
		50	0	59·1	44·4		53·5	
		55	0	60·3	44·7		52·3	
	13	0	0	59·1	42·8	51	52·2	51

December 14, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
14	13	5	0	58·3	40·4		51·7	
		10	0	58·8	38·9		51·7	
		15	0	58·7	38·2		51·3	
		20	0	58·3	37·7		51·4	
		25	0	58·9	36·8		51·6	
		30	0	60·2	35·4		51·7	
		35	0	60·0	43·1		51·6	
		40	0	60·5	45·0		52·1	
		45	0	61·3	49·5		52·4	
		50	0	59·9	48·8		50·5	
		55	0	62·3	46·6		49·5	

Positions at the usual hours of observation, December 14.

14	0	0	0	58·9	80·1	47	51·7	48
	2	0	0	59·4	72·3	48	51·0	48
	4	0	0	59·8	80·2	48	50·2	48
	6	0	0	53·4	66·5	49	49·6	49
	8	0	0	44·1	47·9	50	49·8	49
	10	0	0	49·7	49·1	50	55·1	50
	12	0	0	89·3	09·2	49	67·9	49
	14	0	0	65·0	42·2	51	48·2	50
	16	0	0	57·4	46·1	50	46·3	50
	18	0	0	56·7	60·7	50	49·3	50
	20	0	0	55·3	58·0	50	51·4	50
	22	0	0	56·9	61·7	49	51·4	50

The Mean Positions at the same hours during the Month are given in page 101.

St. Helena { Decl. 1 Scale Division = 0′·71; H. F. k = ·000189; q = ·00025; V. F. k = ·00047; q =

Positions at the usual hours of observation, December 14.

14	0	0	0	19·0	61·5	67	47·6	66
	2	0	0	20·8	60·1	68	48·2	67
	3	0	0	20·0	59·0	68	48·4	67
	4	0	0	19·9	56·9	68	47·6	67
	5	0	0	18·1	53·1	68	47·5	67
	6	0	0	17·8	51·5	68	48·0	67
	8	0	0	17·1	42·0	67	47·2	67
	10	0	0	17·0	42·7	67	47·9	66
	11	0	0	15·1	39·1	67	47·9	66
	12	0	0	19·9	49·5	67	48·9	66
	13	0	0	16·1	45·9	66	48·2	66
	14	0	0	15·7	47·0	66	48·2	65
	15	0	0	15·1	48·1	66	48·2	66
	16	0	0	14·0	49·2	66	48·2	65
	18	0	0	16·5	50·0	66	48·2	65
	19	30	0	16·8	51·1	66	47·9	65
	20	0	0	15·0	51·8	66	47·5	65
	20	30	0	14·6	54·1	66	47·6	65
	22	0	0	15·1	55·7	66	46·5	65
	23	0	0	16·9	58·0	66	46·6	66

Mean Positions at the same hours during the Month. *

0	0	0	19·6	60·1	66
2	0	0	20·0	56·5	67
3	0	0	19·3	55·5	68
4	0	0	18·4	54·0	68
5	0	0	18·0	52·2	68
6	0	0	18·5	50·7	68

* The Mean Positions of the Decl. magnet are from the 10th to 31st December, inclusive; those of the H. F. magnet from the 4th to the 31st inclusive.

December 14, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
	8	0	0	19·8	49·6	67		
	10	0	0	20·6	50·0	67		
	11	0	0	20·5	50·4	66		
	12	0	0	20·6	51·9	66		
	13	0	0	19·9	51·7	66		
	14	0	0	19·7	52·1	66		
	15	0	0	19·6	52·8	66		
	16	0	0	19·1	53·3	66		
	18	0	0	18·9	53·8	65		
	19	30	0	18·2	55·0	65		
	20	0	0	17·2	55·7	65		
	20	30	0	16·3	56·4	65		
	22	0	0	16·8	58·5	65		
	23	0	0	18·3	60·0	66		

Cape of Good Hope — Decl. 1 Scale Division = 0·75; H. F. k = ·00018; q = ·0003; V. F. k = ·000035; q =

Positions at the usual hours of observation, December 14.

14	0	0	0	45·0	78·2	65	117·8	65
	1	0	0	46·2	79·2	66		
	2	0	0	47·0	76·0	66	109·5	66
	3	0	0	47·1	76·0	66		
	4	0	0	46·4	75·7	66	119·2	66
	5	0	0	45·1	72·1	67		
	6	0	0	43·0	70·3	67	141·5	66
	7	0	0	42·1	66·7	66		
	8	0	0	39·1	62·4	66	167·5	66
	9	0	0	33·4	59·4	66		
	10	0	0	38·0	68·6	66	141·5	65
	11	0	0	36·8	68·8	65		
	12	0	0	43·1	80·0	65	89·6	65
	13	0	0	39·9	70·9	65		
	14	0	0	39·0	72·0	65	136·1	64
	15	0	0	38·0	72·2	65		
	16	0	0	37·3	74·1	64	135·4	64
	17	0	0	37·3	74·9	64		
	18	0	0	37·5	76·7	64	135·8	64
	19	0	0	37·6	77·5	64		
	20	0	0	37·4	76·5	64	132·8	64
	21	0	0	39·0	75·5	65		
	22	0	0	41·9	70·7	65	115·1	65
	23	0	0	41·9	69·0	66		

The Mean Positions at the same hours during the Month, are given in page 102.

Van Diemen Island — Decl. 1 Scale Division = 0′·71; H. F. k = ·0003; q =; V. F. k = *; q =

Positions at the usual hours of observation, December 14.

14	0	0	0	76·1	48·7	67	65·2	65
	1	0	0	75·9	50·0		64·9	
	2	0	0	71·4	49·4	65	65·5	64
	3	0	0	69·7	49·5		67·0	
	4	0	0	75·1	49·8	63	71·3	62
	5	0	0	76·1	51·6		71·4	
	6	0	0	77·6	50·5	61	74·8	60
	7	0	0	76·6	52·0		74·8	
	8	0	0	82·0	51·4	59	76·7	57
	9	0	0	83·8	50·1		80·0	
	10	0	0	71·5	48·7	60	71·9	58
	11	0	0	67·4	43·2		68·5	

December 14, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
14	12	0	0	69·5	43·9	64	61·8	64
	13	0	0	67·8	43·0		56·6	
	14	0	0	71·6	48·7	68	54·7	68
	15	0	0	78·3	46·0		56·0	
	16	0	0	83·3	47·5	72	54·7	70
	17	0	0	82·2	47·2		54·7	
	18	0	0	79·8	47·0	75	53·0	72
	19	0	0	78·7	44·4		54·2	
	20	0	0	78·4	42·7	76	55·7	73
	21	0	0	78·0	41·7		56·8	
	22	0	0	76·5	41·0	74	59·0	72
	23	0	0	76·5	41·8		59·0	

The Mean Positions at the same hours during the Month, are given in page 102.

December 30 and 31, 1841.

Toronto — Decl. 1 Scale Division = 0′·72; H. F. k = ·000076; q = ·0002; V. F. k = ·00009; q = ·00018

Positions at the usual hours of observation, December 30 and 31.

30	0	0	0	59·3	112·8	40	58·2	41
	2	0	0	41·4	83·3	40	57·9	41
	4	0	0	50·8	109·4	41	54·6	40
	6	0	0	36·8	42·5	43	58·5	41
	8	0	0	41·5	55·7	44	61·9	43
	10	0	0	49·5	66·9	44	62·6	43
	12	0	0	56·0	47·2	44	65·2	43
	14	0	0	59·9	63·9	44	62·4	43
	16	0	0	60·9	71·5	43	56·8	43
	18	0	0	58·4	66·0	43	56·0	43
	20	0	0	57·1	70·3	44	52·0	43
	22	0	0	60·6	73·0	43	54·1	43
31	0	0	0	54·1	85·9	42	55·3	43
	2	0	0	54·7	82·5	41	57·7	42
	4	0	0	61·8	81·5	41	59·2	41
	6	0	0	55·0	57·5	41	60·7	41
	8	0	0	54·4	80·2	40	62·3	41
	10	0	0	58·7	81·4	40	63·6	40
	12	0	0	59·6	93·1	39	62·3	40
	14	0	0	61·3	95·2	38	62·9	40
	16	0	0	60·2	92·8	38	61·0	40
	18	0	0	61·0	93·7	38	58·9	39
	20	0	0	60·0	88·9	37	59·1	39
	22	0	0	50·2	80·9	37	53·5	39

The Mean Positions at the same hours during the Month, are given in page 101.

St. Helena — Decl. 1 Scale Division = 0′·71; H. F. k = ·00019; q = ·00025; V. F. k = ·00047; q =

Extra observations.

The V. F. was observed at 2^m. 30^s. before, and the H. F. 2^m. 30^s. after the times specified.

30	5	0	0	19·5	48·1	67		
		5	0	18·9				
		10	0	19·0	46·8		36·0	67
		15	0	19·0				
		20	0	19·0	45·1		36·1	
		25	0	19·0				

December 30 and 31, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
30	5	30	0	19·0	44·0		31·6	
		35	0	18·3				
		40	0	18.0	42·0		36·2	
		45	0	18·0				
		50	0	17·7	39·9		36·2	
		55	0	17·5				
	6	0	0	17·9	37·9	67	36·2	67
		5	0	18·2				
		10	0	18·2	37·2		36·2	
		15	0	17·9				
		20	0	17·9	37·9		36·2	
		25	0	17·9				
		30	0	18·0	39·9		36·2	
		35	0	18·0				
		40	0	18·0	40·5		36·0	
		45	0	18·1				
		50	0	18·1	40·5		36·0	
		55	0	18·1				
	7	0	0	18·5	40·0	67	36·0	67
		5	0	18·9				
		10	0	18·9	38·5		36·4	
		15	0	18·9				
		20	0	19·0	36·5		36·4	
		25	0	19·1				
		30	0	19·0	35·0		36·4	
		35	0	18·2				
		40	0	18·1	34·0		36·5	
		45	0	18·0				
		50	0	18·1	33·1		36·4	
		55	0	18·7				
	8	0	0	19·0	34·0	67	36·2	66
		5	0	19·1				
		10	0	19·1	35·9		35·7	
		15	0	19·1				
		20	0	19·1	37·0		35·5	
		25	0	19·2				
		30	0	19·2	38·8		35·5	
		35	0	19·0				
		40	0	18·9	39·1		35·5	
		45	0	18·8				
		50	0	18·8	40·1		35·7	
		55	0	18·9				
	9	0	0	19·1	41·6	67	35·6	66
		5	0	19·2				
		10	0	19·4	43·2		36·8	
		15	0	19·2				
		20	0	19·2	44·0		36·6	
		25	0	19·4				
		30	0	19·8	44·0		35·8	
		35	0	19·9				
		40	0	20·0	44·0		36·7	
		45	0	20·0				
		50	0	20·0	43·0		36·7	
		55	0	20·0				
	10	0	0	20·0	43·0	67	36·6	66
		5	0	20·0				
		10	0	19·9	43·0		37·4	
		15	0	20·0				
		20	0	20·0	44·0		37·1	
		25	0	20·0				
		30	0	20·0	44·0		36·3	
		35	0	20·0				
		40	0	20·1	43·9		Vibr^{n}.	
		45	0	20·1				
		50	0	20·1	44·0		35·3	
		55	0	20·0				
	11	0	0	20·0	45·0	66	35·3	66

December 30 and 31, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
30	11	5	0	19·9				
		10	0	19·8	45·5		35·3	
		15	0	19·7				
		20	0	19·0	46·0		35·4	
		25	0	19·0				
		30	0	19·0	46·5		35·4	
		35	0	19·0				
		40	0	18·9	46·2		35·2	
		45	0	18·9				
		50	0	18·6	45·5		34·8	
		55	0	18·4				
	12	0	0	18·6	45·7	66	35·1	66
		5	0	18·8				
		10	0	18·6	45·9		35·5	
		15	0	18·1				
		20	0	18·1	46·0		35·2	
		25	0	18·0				
		30	0	18·0	46·0		34·8	
		35	0	18·0				
		40	0	17·9	45·9		34·6	
		45	0	17·9				
		50	0	17·9	46·1		34·5	
		55	0	17·9				
	13	0	0	17·9	46·9	66	34·5	66
		5	0	17·8				
		10	0	17·8	46·1		35·6	
		15	0	17·0				
		20	0	16·6	45·2		34·6	
		25	0	16·7				
		30	0	16·9	46·0		35·8	
		35	0	16·7				
		40	0	17·1	46·2		35·8	
		45	0	17·1				
		50	0	17·6	46·8		36·8	
		55	0	17·8				
	14	0	0	17·9	47·0	66	36·8	65
		5	0	18·0				
		10	0	18·0	47·0		36·8	
		15	0	18·1				
		20	0	18·1	47·1		35·8	
		25	0	18·1				
		30	0	18·1	47·7		Vibr^{n}.	
		35	0	18·1				
		40	0	18·2	48·0		35·9	
		45	0	18·2				
		50	0	18·2	48·0		35·9	
		55	0	18·2				

Positions at the usual hours of observation, December 30 and 31.

30	0	0	0	19·9	72·7	65	32·8	65
	2	0	0	24·0	60·0	66	34·3	65
	3	0	0	22·0	57·0	67	34·3	66
	4	0	0	18·2	56·3	67	34·7	67
	5	0	0	19·5	48·1	67	36·0	67
	6	0	0	17·9	37·9	67	36·2	67
	8	0	0	19·0	34·0	67	36·2	66
	10	0	0	20·0	43·0	67	36·6	66
	11	0	0	20·0	45·0	66	35·3	66
	12	0	0	18·6	45·7	66	35·1	66
	13	0	0	17·9	46·9	66	34·5	66
	14	0	0	17·9	47·0	66	36·8	65

December 30 and 31, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
30	15	0	0	18·3	48·6	66	35·9	65
	16	0	0	18·6	49·9	66	35·5	65
	18	0	0	17·4	50·6	65	36·4	65
	19	30	0	17·8	51·5	65	35·7	65
	20	0	0	17·4	51·6	65	36·1	65
	20	30	0	16·0	51·8	65	35·9	64
	22	0	0	14·2	54·1	65	35·3	65
	23	0	0	16·2	53·2	65	35·8	65
31	0	0	0	17·9	53·8	65	36·5	65
	2	0	0	16·9	50·9	66	37·8	66
	3	0	0	17·5	51·0	66	37·9	67
	4	0	0	18·0	51·9	68	37·6	67
	5	0	0	18·6	51·0	67	37·1	67
	6	0	0	19·0	48·5	68	37·5	67
	8	0	0	18·4	50·9	67	36·3	67
	10	0	0	20·0	53·9	67	35·7	66
	11	0	0	19·7	53·9	67	36·3	66
	12	0	0	19·6	53·2	66	35·6	66
	13	0	0	19·7	52·9	66	35·5	66
	14	0	0	19·8	53·4	66	35·3	65
	15	0	0	19·9	54·3	66		
	16	0	0	19·8	55·2	65	34·9	65
	18	0	0	18·3	57·2	65	34·8	64
	19	30	0	17·4	56·9			
	20	0	0	15·0	57·9	65	34·6	64
	20	30	0	18·8	58·8			
	22	0	0	11·9	59·5	65	Vibr^{n}.	
	23	0	0	12·8	58·8	65	33·9	65

The Mean Positions at the same hours during the Month are given in page 104.

Island of Ascension[a]: Decl. 1 Scale Division = 3′·00; H. F. k = ·0003; q =

Positions at the usual hours of observation, December 30.

30	0	0	0	52·5	82·4	82
	1	0	0	53·5	83·4	82
	2	0	0	51·5	78·5	82
	3	0	0	52·0	74·5	82
	4	0	0	52·6	74·0	82
	5	0	0	52·6	72·1	82
	6	0	0	53·2	67·6	81
	7	0	0	55·0	68·9	80
	8	0	0	56·8	66·0	80
	9	0	0	58·8	70·0	80
	10	0	0	58·6	69·9	79
	11	0	0	59·1	69·3	79
	12	0	0	59·0	70·0	79
	13	0	0	58·3	70·0	79

Mean Positions at the same hours from December 24 to December 30, inclusive.

	0	0	0	55·3	76·6	82
	1	0	0	55·1	76·8	82
	2	0	0	54·1	74·0	83
	3	0	0	53·5	74·2	82
	4	0	0	53·3	75·1	82
	5	0	0	53·2	74·0	82
	6	0	0	53·4	72·3	82
	7	0	0	54·6	72·3	81

December 30 and 31, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
	8	0	0	55·5	72·2	81		
	9	0	0	56·6	73·0	81		
	10	0	0	57·1	73·0	81		
	11	0	0	57·6	74·4	81		
	12	0	0	57·5	73·2	81		
	13	0	0	57·7	73·4	81		

Cape of Good Hope: Decl. 1 Scale Division = 0′·75; H. F. k = ·00018; q = ·0003; V. F. k = ·000035; q =

Positions at the usual hours of observation, December 30 and 31.

30	0	0	0	50·8	84·9	68	49·9	68
	1	0	0	53·7	81·5	68		
	2	0	0	53·0	72·3	69	102·1	68
	3	0	0	50·2	69·2	69		
	4	0	0	49·2	73·0	69	103·7	69
	5	0	0	46·4	66·5	69		
	6	0	0	46·2	51·5	69	152·6	69
	7	0	0	44·0	55·0	69		
	8	0	0	43·4	52·0	69	155·6	68
	9	0	0	41·0	63·1	68		
	10	0	0	42·4	63·6	68	119·4	68
	11	0	0	43·0	66·2	68		
	12	0	0	40·8	68·1	68	119·5	68
	13	0	0	40·5	68·5	68		
	14	0	0	41·8	66·3	68	113·2	67
	15	0	0	42·0	67·1	68		
	16	0	0	42·5	69·0	67	106·9	67
	17	0	0	42·1	70·0	67		
	18	0	0	41·1	70·2	67	111·7	67
	19	0	0	40·0	72·1	67		
	20	0	0	39·0	72·7	67	124·2	67
	21	0	0	38·0	74·0	67		
	22	0	0	39·0	72·9	67	115·8	67
	23	0	0	39·9	73·4	67		
31	0	0	0	42·2	75·2	67	94·3	66
	1	0	0	43·0	72·1	68		
	2	0	0	42·9	71·4	68	97·8	68
	3	0	0	44·0	71·2	68		
	4	0	0	43·5	71·0	69	96·8	68
	5	0	0	43·0	68·9	69		
	6	0	0	42·0	65·5	70	109·1	69
	7	0	0	42·7	66·0	70		
	8	0	0	43·5	67·4	70	98·7	69
	9	0	0	44·2	69·2	69		
	10	0	0	44·5	73·1	69	103·6	68
	11	0	0	44·2	72·7	68		
	12	0	0	44·5	71·8	68	100·6	68
	13	0	0	44·0	71·8	67	105·1	67
	14	0	0	44·0	71·8	67	107·7	67
	15	0	0	44·1	72·8	67	102·1	67
	16	0	0	44·6	74·9	67	100·2	67
	17	0	0	43·8	76·3	66	100·8	66
	18	0	0	42·6	79·3	66	100·5	66
	19	0	0	41·7	79·3	66	106·9	66
	20	0	0	39·8	80·8	66	107·4	66
	21	0	0	37·0	79·9	66	104·5	66
	22	0	0	39·1	74·2	66	84·8	67
	23	0	0	43·1	70·3	67	75·7	67

The Mean Positions at the same hours during the Month are given in page 102.

[a] Observations made by Captain William Allen, R.N., Commanding H.M. Steamer Wilberforce, with Weber's transportable magnetometer.

December 30 and 31, 1841.

Van Diemen Island { Decl. 1 Scale Division = 0′·71
H. F. k = ·0003 ; q =
V. F. k = ; q =

Extra observations.

The V. F. was observed at 2ᵐ. 30ˢ. before, and the H. F. 2ᵐ. 30ˢ. after the times specified.[a]

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
30	2	15	0	51·2				
		20	0	50·4	49·3	63	61·8	62
		25	0	50·3				
		30	0	51·5	47·9		62·2	
		35	0	53·0				
		40	0	53·5	46·0		64·8	
		45	0	53·2				
		50	0	52·6	45·8		66·2	
	3	10	0	57·0	46·9	64		
		15	0	58·3				
		20	0	58·6	47·1		69·0	63
		25	0	59·5				
		30	0	59·4	48·4		69·0	
		35	0	59·4				
		40	0	59·0	46·4		68·4	
		45	0	59·0				
		50	0	58·7	45·8		67·2	
		55	0	58·9				

Positions at the usual hours of observation, December 30 and 31.

30	0	0	0	69·8	47·3	64	67·3	62
	1	0	0	68·9	47·0		68·8	
	2	0	0	67·4	47·2	63	63·6	62

[a] The connexion of the Declination series appears to have been broken on the 28th of December, consequently the observations of that magnet from 30ᵈ. 0ʰ. to 30ᵈ. 12ʰ., are not comparable with the mean positions given in page 102.

December 30 and 31, 1841.

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
30	3	0	0	54·6	46·3		67·3	
	4	0	0	58·5	45·5	64	68·1	63
	5	0	0	59·5	45·3		67·2	
	6	0	6	58·0	45·9	63	65·4	62
	7	0	0	58·0	47·0		65·9	
	8	0	0	58·4	42·5	62	70·1	60
	9	0	0	61·1	42·5		73·7	
	10	0	0	58·4	43·5	61	71·7	59
	11	0	0	56·2	43·5		72·5	
	12	0	0[b]	60·4	43·1	60	76·6	59
31	2	0	0	90·0	52·5	62	68·8	61
	3	0	0	88·3	53·4		70·7	
	4	0	0	89·5	53·9	63	71·8	62
	5	0	0	88·6	54·5		72·2	
	6	0	0	92·3	56·7	60	72·7	60
	7	0	0	94·0	56·6		72·4	
	8	0	0	90·4	54·8	60	75·1	59
	9	0	0	87·6	54·2		74·4	
	10	0	0	85·8	54·4	60	73·5	59
	11	0	0	85·7	52·3		69·6	
	12	0	0		52·1	63		
	15	0	0	73·4	45·6		63·5	61
	16	0	0	78·5	48·0	72	60·9	70
	17	0	0	80·9	45·4		61·9	
	18	0	0	81·6	51·8	74	57·2	71
	19	0	0	81·4	53·2		59·6	
	20	0	0	80·0	52·8	73	59·2	70
	21	0	0	79·1	54·4		59·2	
	22	0	0	77·7	54·9	71	58·1	69
	23	0	0	69·2	51·3		61·4	

[b] The connexion of the series was broken at 30ᵈ. 12ʰ. for the purpose of making the usual monthy determinations of the magnetic moments of the bars.

December 30 and 31, 1841.

The Mean Positions corresponding to the position of the H. F. and V. F., namely, from 30ᵈ. 0ʰ. to 30ᵈ. 12ʰ., are given in page 102; the Mean Positions corresponding to the observations of the three instruments from 31ᵈ. 2ʰ. to 31ᵈ. 23ʰ., are those of the Month of January 1842, and are as follows:—

M. Gött. Time.				Decl.	Hor. Force.		Vert. Force.	
d.	h.	m.	s.	Sc.-Div^{ns}.	Sc.-Div^{ns}.	Ther. °	Sc.-Div^{ns}.	Ther. °
	0	0	0	75·7	54·2	68	62·3	66
	1	0	0	74·6	54·4		63·6	
	2	0	0	74·2	44·1	66	64·8	64
	3	0	0	73·9	54·5		66·0	
	4	0	0	73·6	55·2	64	69·0	63
	5	0	0	73·6	55·5		67·8	
	6	0	0	73·7	56·1	63	68·1	62
	7	0	0	73·8	55·9		69·1	
	8	0	0	72·3	56·3	62	70·8	60
	9	0	0	70·9	56·3		70·3	
	10	0	0	68·7	55·7	61	70·1	61
	11	0	0	67·9	55·0		69·2	
	12	0	0	68·2	53·3	63	68·1	62
	13	0	0	70·7	52·2		67·9	
	14	0	0	74·1	51·9	66	66·3	65
	15	0	0	78·4	51·7		64·5	
	16	0	0	81·7	52·6	68	62·7	66
	17	0	0	82·3	53·1		61·1	
	18	0	0	81·5	53·5	70	59·6	68
	19	0	0	80·3	53·5		58·7	
	20	0	0	79·1	53·5	71	58·8	68
	21	0	0	77·7	53·2		59·4	
	22	0	0	76·6	52·9	70	60·1	68
	23	0	0	76·3	53·9		61·3	

OBSERVATIONS WITH THE MAGNETOMETERS

ON DAYS OF

UNUSUAL MAGNETIC DISTURBANCE.

1842.

1842.
St. Helena.

Jan. 14—15.

ST. HELENA, 1842. JANUARY 14—17.

MEAN MONTHLY READINGS OF THE MAGNETOMETERS.

Mean Göttingen Time.	Declination.	H. F. at 67°·1.	V. F. at 66°·4.	Mean Göttingen Time.	Declination.	H. F. at 67°·1.	H. F. at 66°·4.
Hours.	Sc. Div.	Sc. Div.	Sc. Div.	Hours.	Sc. Div.	Sc. Div.	Sc. Div.
0	20·9	63·9	8·0	12	20·1	54·3	9·5
1	22·1	63·7	—	13	—	—	—
2	21·0	63·2	8·8	14	19·9	55·6	9·1
3	19·2	61·8	—	15	19·6	55·6	—
4	19·0	60·3	9·6	16	19·3	55·9	8·9
5	19·1	59·2	—	17	—	—	—
6	19·1	58·0	10·3	18	19·0	56·2	9·1
7	—	—	—	19	18·9	56·2	—
8	19·8	55·9	10·3	20	17·0	57·2	8·7
9	—	—	—	21	15·7	58·2	—
10	20·5	54·6	9·8	22	16·5	60·0	8·3
11	20·2	54·2	—	23	18·4	62·5	—

Coefficients (A), Approximate Absolute Values (B).

(A)
- Declin. $a = 0'\cdot711$
- H. F. $k = \cdot00019$, $q = \cdot00028$
- V. F. $k = \cdot0005$, $q = \cdot00002$

(B) Approx.
- $\psi = 23°\,01'$
- $X = 5\cdot57$
- $Y = 2\cdot19$
- $\theta = -21°\,28'$
- $\phi = 6\cdot00$

OBSERVATIONS OF THE MAGNETOMETERS.

The H. F. was observed 2m. 30s. before, and the V. F. 2m. 30s. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.	
D. H. M.	Sc. Div.	Sc. Div.	Therm.	Sc. Div.	Therm.
14 23 00	16·1	—	66·0	—	66·0
30	17·6	—		—	
35	17·8	72·9		8·2	
40	17·9	—		—	
45	18·1	72·9		8·3	
50	18·7	—		—	
55	19·1	72·9		8·2	
15 00 00	19·4	—	66·6	—	66·1
05	20·7	72·9		8·3	
10	20·1	—		—	
15	20·7	73·0		8·3	
20	21·1	—		—	
25	21·7	72·9		8·7	
30	22·1	—		—	
35	22·8	72·9		8·7	
40	23·1	—		—	
45	23·8	73·2		8·7	
50	24·1	—		—	
55	24·2	73·6		9·2	
01 00	24·6	—	67·0	—	66·6
05	24·8	73·9		9·1	
10	24·7	—		—	
15	24·9	73 9		9·4	
20	24·6	—		—	
25	24·7	73·4		9·5	
30	24·4	—		—	
35	24·4	73·0		9·5	
40	24·3	—		—	
45	24·5	72-9		9·6	
50	24·5	—		—	
55	24·2	72·2		9·5	
02 00	24·1	—	67·5	—	67·0
05	23·9	71·5		9·5	
10	23·7	—		—	
15	23·4	70·8		9·5	
20	23·1	—		—	
25	22·8	69·8		9·4	
30	22·2	—		—	
35	22·0	69·0		9·1	
40	21·3	—		—	
45	21·0	68·1		9·2	

Differences from the Mean Monthly Values at the corresponding Hours.

$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
—	—	− 1·6	—	—
—	—	− 1·4	—	—
+·0016	+·0001	− 1·5	− 1·8	+·0014
—	—	− 1·5	—	—
+·0016	+·0001	− 1·5	− 1·8	+·0014
—	—	− 1·3	—	—
+·0016	+·0001	− 1·1	− 1·8	+·0014
—	—	− 1·1	—	—
+·0016	+·0002	− 0·2	− 1·7	+·0014
—	—	− 0·7	—	—
+·0016	+·0001	− 0·4	− 1·8	+·0014
—	—	− 0·1	—	—
+·0017	+·0003	+ 0·2	− 1·7	+·0015
—	—	+ 0·4	—	—
+·0017	+·0003	+ 0·8	− 1·7	+·0015
—	—	+ 1·0	—	—
+·0018	+·0002	+ 1·4	− 1·9	+·0016
—	—	+ 1·5	—	—
+·0019	+·0004	+ 1·5	− 1·8	+·0017
—	—	+ 1·8	—	—
+·0019	+·0004	+ 2·0	− 1·8	−·0017
—	—	+ 2·0	—	—
+·0020	+·0005	+ 2·2	− 1·8	+·0018
—	—	+ 2·0	—	—
+·0019	+·0005	+ 2·2	− 1·7	+·0017
—	—	+ 2·0	—	—
+·0019	+·0005	+ 2·0	− 1·7	+·0017
—	—	+ 2·0	—	—
+·0019	+·0005	+ 2·2	− 1·7	+·0017
—	—	+ 2·3	—	—
+·0018	+·0004	+ 2·2	− 1·7	+·0016
—	—	+ 2·2	—	—
+·0017	+·0004	+ 2·2	− 1·4	+·0015
—	—	+ 2·1	—	—
+·0016	+·0003	+ 2·0	− 1 4	+·0014
—	—	+ 1·9	—	—
+·0015	+·0002	+ 1·8	− 1·4	+·0013
—	—	+ 1·5	—	—
+·0014	+·0001	+ 1·5	− 1·4	+·0012
—	—	+ 1·1	—	—
+·0013	+·0001	+ 1·0	− 1·4	+·0011

1842.
St. Helena.
Jan. 15—17.

OBSERVATIONS OF THE MAGNETOMETERS.

The H. F. was observed 2m. 30s. before, and the V. F. 2m. 30s. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
15 02 50	20·6	—		—		—	—	+ 0·8	—	—
55	20·1	67·0		8·6		+·0012	−·0003	+ 0·6	− 1·8	+·0010
03 00	20·0	—	67·8	—	67·3	—	—	+ 0·6	—	—
05	19·5	66·0		8·4		+·0010	−·0004	+ 0·2	− 1·7	+·0008
10	19·1	—		—		—	—	− 0·1	—	—
15	19·0	65·0		8·4		+·0009	−·0004	− 0·1	− 1·7	+·0007
20	18·8	—		—		—	—	− 0·2	—	—
25	18·5	63·8		9·0		+·0009	−·0005	− 0·4	− 0·9	+·0006
30	18·1	—		—		—	—	− 0·7	—	—
35	18·0	62·9		9·2		+·0007	−·0002	− 0·8	− 0·8	+·0005
40	18·0	—		—		—	—	− 0·8	—	—
45	18·0	62·9		9·4		+·0006	−·0001	− 0·8	− 0·9	+·0006
50	18·0	—		—		—	—	− 0·7	—	—
55	18·0	62·9		9·4		+·0007	−·0001	− 0·7	− 0·9	+·0006
04 00	18·2	—	68·0	—	67·6	—	—	− 0·6	—	—
05	18·3	62·9		9·6		+·0008	·0000	− 0·5	− 0·9	+·0007
10	18·5	—		—		—	—	− 0·4	—	—
15	18·6	62·9		10·0		+·0008	+·0002	− 0·3	− 0·7	+·0007
20	18·8	—		—		—	—	− 0·1	—	—
25	18·9	62·8		9·8		+·0008	·0000	− 0·1	− 0·9	+·0007
30	18·9	—		—		—	—	− 0·1	—	—
35	18·9	62·5		9·9		+·0008	+·0001	− 0·1	− 0·8	+·0007
40	18·9	—		—		—	—	− 0·1	—	—
45	18·9	62·0		10·1		+·0007	+·0001	− 0·1	− 0·7	+·0006
50	19·0	—		—		—	—	− 0·1	—	—
55	19·0	61·9		10·0		+·0008	·0000	− 0·1	− 0·9	+·0007
05 00	19·6	—		—		—	—	+ 0·4	—	—
17 20 00	15·7	—	66·7	—	66·1	—	—	− 0·9	—	—
05	16·0	67·0		8·3		+·0017	−·0002	− 0·6	− 2·1	+·0015
10	15·4	—		—		—	—	− 1·0	—	—
15	15·9	66·1		8·3		+·0015	−·0002	− 0·6	− 2·0	+·0013
20	16·2	—		—		—	—	− 0·3	—	—
25	16·0	66·8		8·3		+·0016	−·0002	− 0·4	− 2·1	+·0014
30	16·1	—		—		—	—	− 0·2	—	—
35	16·1	67·3		8·3		+·0017	−·0002	− 0·1	− 2·1	+·0015
40	15·8	—		—		—	—	− 0·2	—	—
45	16·0	68·0		7·9		+·0018	−·0004	0·0	− 2·6	+·0015
50	16·0	—		—		—	—	+ 0·1	—	—
55	16·3	63·7		7·9		+·0009	−·0003	+ 0·4	− 1·4	+·0007
21 00	16·1	—	66·6	—	66·1	—	—	+ 0·3	—	—
05	16·1	64·0		7·9		+·0009	−·0003	+ 0·2	− 1·4	+·0007
10	16·1	—		—		—	—	+ 0·2	—	—
15	16·0	64·9		7·9		+·0010	−·0003	+ 0·1	− 1·4	+·0008
20	16·0	—		—		—	—	0·0	—	—
25	15·9	62·6		8·0		+·0005	−·0002	− 0·1	− 0·8	+·0004
30	16·1	—		—		—	—	0·0	—	—
35	16·1	63·0		8·0		+·0005	−·0002	− 0·1	− 0·8	+·0004
40	16·5	—		—		—	—	+ 0·2	—	—
45	17·0	63·0		8·0		+·0005	−·0002	+ 0·5	− 0·8	+·0004
50	17·1	—		—		—	—	+ 0·5	—	—
55	17·2	63·5		8·0		+·0005	−·0002	+ 0·6	− 0·8	+·0004
22 00	17·8	—	66·4	—	66·0	—	—	+ 0·9	—	—
05	18·0	63·3		8·3		+·0004	·0000	+ 0·9	− 0·5	+·0003
10	18·2	—		—		—	—	+ 1·0	—	—
15	18·5	63·0		8·3		+·0003	·0000	+ 1·1	− 0·2	+·0003
20	18·8	—		—		—	—	+ 1·2	—	—
25	19·0	63·5		8·3		+·0003	·0000	+ 1·2	− 0·2	+·0003
30	19·3	—		—		—	—	+ 1·3	—	—
35	19·3	63·5		8·3		+·0003	+·0001	+ 1·2	− 0·2	+·0003
40	20·0	—		—		—	—	+ 1·5	—	—
45	20·0	64·0		8·3		+·0003	+·0001	+ 1·5	− 0·2	+·0003
50	20·0	—		—		—	—	+ 1·3	—	—
55	20·3	65·0		8·6		+·0004	+·0002	+ 1·5	− 0·2	+·0004
23 00	20·8	—		—		—	—	+ 1·7	—	—

1842.
Cape of Good Hope.

Jan. 18

CAPE OF GOOD HOPE, 1842. JANUARY 18.

MEAN MONTHLY READINGS OF THE MAGNETOMETERS.

Mean Göttingen Time.	Declination.	H. F. at 70°·8	V. F. at 70°·0.	Mean Göttingen Time.	Declination.	H. F. at 70°·8	V. F. at 70°·0.
Hours.	Sc. Div.	Sc. Div.	Sc. Div.	Hours.	Sc. Div.	Sc. Div.	Sc. Div.
0	46·0	72·9	35·7	12	44·6	71·7	55·9
1	47·9	72·2	38·6	13	44·5	72·1	55·1
2	47·5	71·5	43·5	14	44·2	72·6	53·8
3	46·4	72·9	47·1	15	43·8	73·4	54·1
4	45·9	72·8	49·4	16	43·5	73·3	55·3
5	45·4	72·0	51·8	17	43·1	74·1	55·9
6	45·1	71·3	53·5	18	42·2	74·9	56·5
7	45·2	71·1	53·6	19	41·1	75·4	57·3
8	45·6	70·9	52·5	20	39·9	75·7	56·7
9	45·5	71·0	53·7	21	40·0	74·6	53·8
10	45·1	71·1	56·0	22	41·4	73·2	47·4
11	44·7	71·0	57·3	23	43·6	73·0	39·8

Coefficients (A), Approximate Absolute Values (B).

(A) Declin. $a = 0'\cdot751$
H. F. $k = \cdot00018$, $q = \cdot00028$
V. F. $k = \cdot00005$, $q = \cdot00005$

(B) Approx. $\psi = 29^\circ\,05'$, $X = 4\cdot48$, $Y = 6\cdot00$, $\theta = -53^\circ\,12'$, $\phi = 7\cdot48$

OBSERVATIONS OF THE MAGNETOMETERS.

The H. F. was observed 2m. before, and the V. F. 4m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm.	Sc. Div.	Therm.	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
18 06 00	44·0	59·5	74·7	56·7	74·3	−·0010	+·0004	− 0·8	+ 2·3	−·0001
20	43·5	58·4		57·4		−·0012	+·0004	− 1·2	+ 2·6	−·0002
24	43·3	—		—		—	—	− 1·4	—	—
28	43·4	57·3		59·3		−·0014	+ 0005	− 1·3	+ 3·1	−·0002
32	43·1	—		—		—	—	− 1·6	—	—
36	42·9	57·0		59·8		−·0015	+·0005	− 1·7	+ 3·3	−·0002
40	42·4	—		—		—	—	− 2·1	—	—
44	42·1	57·0		59·4		−·0015	+·0005	− 2·3	+ 3·3	−·0002
48	42·0	—		—		—	—	− 2·4	—	—
52	41·3	59·0		59·5		−·0011	+·0005	− 2·9	+ 2·7	·0000
56	41·0	—		—		—	—	− 3·2	—	—
07 00	40·9	59·5	74·6	56·4	74·3	−·0010	+·0004	− 3·2	+ 2·3	−·0001
04	41·0	—		—		—	—	− 3·2	—	—
08	41·6	60·5		53·2		−·0009	+·0002	− 2·8	+ 1·8	−·0002
12	41·9	—		—		—	—	− 2·6	—	—
16	42·0	61·5		51·0		−·0007	+·0001	− 2·5	+ 1·4	−·0001
20	42·0	—		—		—	—	− 2·5	—	—
24	41·7	62·2		52·6		−·0005	+·0002	− 2·8	+ 1·2	·0000
28	41·0	—		—		—	—	− 3·3	—	—
32	40·5	61·0		55·4		−·0008	+·0003	− 3·7	+ 1·8	−·0001
36	40·0	—		—		—	—	− 4·1	—	—
40	40·0	60·2		54·8		−·0009	+·0003	− 4·1	+ 2·0	−·0001
44	40·3	—		—		—	—	− 3·9	—	—
48	40·5	60·6		52·6		−·0008	+·0002	− 3·8	+ 1·7	−·0001
52	40·9	—		—		—	—	− 3·5	—	—
56	41·0	—		—		—	—	− 3·5	—	—
08 00	41·0	61·0	74·5	51·6	74·3	−·0007	+·0002	− 3·5	+ 1·5	−·0001

1842. Van Diemen Island. Feb. 17.

VAN DIEMEN ISLAND, 1842. FEBRUARY 17—18.

MEAN MONTHLY READINGS OF THE MAGNETOMETERS.

Mean Göttingen Time.	Declination.	H. F. at 67°·6.	V. F. at 65°·9.	Mean Göttingen Time.	Declination.	H. F. at 67°·6.	V. F. at 65°·9.
Hours.	Sc. Div.	Sc. Div.	Sc. Div.	Hours.	Sc. Div.	Sc. Div.	Sc. Div.
0	68·8	66·1	82·1	12	62·9	56·8	72·7
1	67·1	66·2	79·1	13	65·6	56·7	75·9
2	67·1	65·7	78·3	14	69·8	58·2	81·8
3	67·5	66·0	75·9	15	74·0	62·0	81·8
4	68·1	65·4	73·7	16	76·7	65·5	85·3
5	68·6	65·0	70·3	17	77·6	67·8	84·9
6	66·9	64·6	66·7	18	77·1	69·8	86·6
7	67·4	63·5	67·0	19	75·3	69·7	88·0
8	68·0	63·9	68·8	20	73·1	69·9	88·2
9	67·1	63·7	69·9	21	71·3	69·1	84·1
10	65·8	60·6	68·0	22	70·1	69·0	83·8
11	63·2	59·3	70·5	23	69·4	68·4	81·2

Coefficients (A), Approximate Absolute Values (B.)

(A)
- Declin. $a = 0'·71$
- H. F. $k = ·000130$, $q = ·000234$
- V. F. $k = ·000035$, $q = ·00021$

(B) Approx.
- $\psi = -9°\,52'$
- X = 4·51
- Y = 12·86
- $\theta = -70°\,37'$
- $\phi = 13·62$

OBSERVATIONS OF THE MAGNETOMETERS.

The H. F. was observed 2m. 30s. before, and the V. F. 2m. 30s. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
17 00 00	69·6	64·7	69·0	79·0	67·0	−·0001	·0000	+ 0·6	+ 0·1	·0000
01 00	53·2	62·3	68·5	60·4	67·0	−·0003	−·0004	− 9·8	− 0·1	−·0004
05	52·4	—		—		—	—	−10·4	—	—
10	51·7	—		—		—	—	−11·0	—	—
15	52·4	61·0		65·8		−·0005	−·0002	−10·4	+ 0·3	−·0002
20	55·5	—		—		—	—	− 8·2	—	—
25	57·6	61·5		70·1		−·0004	−·0001	− 6·8	+ 0·3	−·0001
30	58·3	—		—		—	—	− 6·3	—	—
35	58·6	60·3		71·6		−·0006	·0000	− 6·1	+ 0·7	−·0001
40	57·7	—		—		—	—	− 6·7	—	—
45	55·9	56·6		73·4		−·0011	+·0001	− 7·9	+ 1·3	·0000
02 00	57·3	58·0	68·0	75·3	67·0	−·0009	+·0001	− 7·0	+ 1·1	·0000
15	61·4	—		—		—	—	− 4·2	—	—
20	61·6	—		—		—	—	− 4·0	—	—
25	61·5	—		—		—	—	− 4·2	—	—
03 00	65·0	62·4	67·3	77·9	65·6	−·0005	·0000	− 1·8	+ 0·5	−·0001
04 00	63·7	60·3	66·5	80·0	64·2	−·0009	−·0001	− 3·1	+ 0·9	−·0002
05 00	76·7	75·7	66·0	70·3	64·4	+·0010	−·0003	+ 5·8	− 1·4	−·0002
05	73·4	—		—		—	—	+ 3·4	—	—
10	72·3	—		—		—	—	+ 2·8	—	—
15	69·3	71·0		51·4		+·0004	−·0009	+ 0·8	− 1·4	−·0008
20	64·4	—		—		—	—	− 2·5	—	—
25	60·8	67·3		45·9		−·0001	−·0011	− 5·1	− 1·1	−·0010
30	55·5	—		—		—	—	− 8·7	—	—
35	54·4	65·3		44·0		−·0004	−·0012	− 9·3	− 0·9	−·0011
40	52·6	—		—		—	—	−10·5	—	—
45	53·1	65·6		44·5		−·0004	−·0011	−10·0	− 0·8	−·0010
50	52·2	—		—		—	—	−10·7	—	—
55	53·0	—		—		—	—	− 9·9	—	—
06 00	56·9	64·6	65·5	50·3	64·5	−·0005	−·0009	− 7·1	− 0·4	−·0009
05	58·1	—		—		—	—	− 6·3	—	—
10	58·2	—		—		—	—	− 6·3	—	—
15	58·6	62·1		59·1		−·0008	−·0006	− 6·0	+ 0·2	−·0006
20	60·3	—		—		—	—	− 4·9	—	—
25	62·5	61·9		66·1		−·0008	−·0004	− 3·2	+ 0·4	−·0004
30	63·3	—		—		—	—	− 2·7	—	—
35	63·3	60·6		69·5		−·0010	−·0003	− 2·7	+ 0·8	−·0004
40	64·2	—		—		—	—	− 2·1	—	—
45	64·3	59·9		74·2		−·0010	−·0002	− 2·1	+ 0·9	−·0003
50	65·9	—		—		—	—	− 1·0	—	—

1842.
Van Diemen Island.

Feb. 17—18.

OBSERVATIONS OF THE MAGNETOMETERS.

The H. F. was observed 2m. 30s. before, and the V. F. 2m. 30s. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta \psi$	$\Delta \theta$	$\frac{\Delta \phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
17 07 00	66·5	60·0	65·3	77·1	63·7	−·0010	−·0001	− 0·6	+ 1·0	−·0002
08 00	69·5	63·9	65·0	84·6	63·0	−·0006	−·0001	+ 1·1	+ 0·5	−·0002
09 00	66·3	65·7	64·5	78·9	63·1	−·0005	−·0003	− 0·6	+ 0·2	−·0003
10 00	63·3	66·4	64·0	81·3	63·2	−·0001	−·0001	− 1·8	0·0	−·0001
11 00	61·9	63·1	64·5	85·5	63·7	−·0002	+·0001	− 0·9	+ 0·3	+·0001
12 00	63·8	—	—	—	—	—	—	+ 0·6	—	—
13 00	69·0	60·0	66·5	82·7	64·6	+·0003	−·0001	+ 2·4	− 0·4	−·0001
14 00	71·8	58·9	68·0	81·9	65·0	+·0002	−·0002	+ 1·4	− 0·4	−·0002
15 00	75·5	62·0	67·5	79·8	65·3	·0000	−·0002	+ 1·1	− 0·2	−·0002
16 00	78·2	64·2	67·0	77·5	65·5	−·0003	−·0004	+ 1·1	− 0·1	−·0004
17 00	79·4	66·7	68·0	73·0	66·5	−·0001	−·0002	+ 1·3	− 0·1	−·0002
18 00	76·8	66·3	69·0	68·9	67·5	−·0001	−·0003	− 0·2	− 0·2	−·0003
19 00	73·5	64·8	69·3	70·6	68·0	−·0003	−·0002	− 1·3	+ 0·1	−·0002
20 00	74·1	64·3	69·5	70·6	68·5	−·0003	−·0001	+ 0·7	+ 0·2	−·0001
21 00	73·4	64·3	69·0	70·6	67·9	−·0003	−·0001	+ 1·5	+ 0·2	−·0001
22 00	72·3	66·0	68·5	74·3	67·2	−·0002	−·0001	+ 1·5	+ 0·1	−·0001
23 00	64·2	60·4	68·8	69·6	67·4	−·0008	−·0001	− 3·7	+ 0·8	−·0002
18 00 00	67·7	58·5	69·0	80·1	67·5	−·0007	+·0003	− 0·8	+ 1·1	+·0002
01 00	67·8	63·0	68·8	77·7	67·3	−·0002	+·0002	+ 0·5	+ 0·4	+·0002
02 00	53·0	57·7	68·5	64·0	67·0	−·0008	−·0005	−10·0	+ 0·3	−·0005
15	48·4	56·5		61·0		−·0010	−·0003	−13·4	+ 0·8	−·0004
20	45·8	—		—		—	—	−15·2	—	—
25	46·0	59·3		58·5		−·0006	−·0004	−15·1	+ 0·2	−·0004
30	48·2	—		—		—	—	−13·6	—	—
35	49·8	67·2		53·6		+·0004	−·0005	−12·5	− 1·0	−·0004
40	51·1	—		—		—	—	−11·6	—	—
45	53·8	68·9		52·5		+·0007	−·0005	− 9·6	− 1·3	−·0004
50	57·5	—		—		—	—	− 7·0	—	—
55	58·4	67·9		60·6		+·0005	−·0002	− 6·5	− 0·8	−·0001
03 00	57·9	62·0	68·8	56·2	67·5	−·0003	−·0005	− 6·8	− 0·2	−·0005
10	55·0	—		—		—	—	− 8·9	—	—
15	54·8	56·1		68·5		−·0010	+·0001	− 9·1	+ 1·2	·0000
20	57·2	—		—		—	—	− 7·5	—	—
25	59·8	57·0		75·2		−·0008	+·0004	− 5·7	+ 1·3	+·0003
30	63·0	—		—		—	—	− 3·4	—	—
35	64·7	57·5		78·9		−·0007	+·0006	− 2·2	+ 1·4	+·0005
40	67·2	—		—		—	—	− 0·5	—	—
45	67·3	57·2		78·6		−·0008	+·0006	− 0·5	+ 1·5	+·0005
50	66·8	—		—		—	—	− 0·8	—	—
04 00	67·9	57·8	69·0	79·0	68·0	−·0007	+·0006	− 0·1	+ 1·4	+·0005
05 00	72·5	64·1	68·5	57·7	67·5	+·0001	−·0002	+ 2·7	− 0·3	−·0002
15	70·7	—		—		—	—	+ 1·8	—	—
20	69·9	—		—		—	—	+ 1·3	—	—
25	69·6	59·7		68·5		−·0005	+·0003	+ 1·2	+ 0·9	+·0002
30	70·3	—		—		—	—	+ 1·8	—	—
35	70·1	60·2		69·5		−·0005	+·0003	+ 1·8	+ 0·9	+·0002
40	70·1	—		—		—	—	+ 1·8	—	—
45	68·7	64·2		63·5		+·0001	+·0001	+ 1·0	0·0	+·0001
50	67·8	—		—		—	—	+ 0·4	—	—
06 00	65·6	66·9	68·0	58·3	67·0	+·0004	−·0002	− 0·9	− 0·7	−·0001
07 00	69·1	56·8	67·0	79·7	66·0	−·0010	+·0004	+ 1·2	+ 1·5	+·0003
10	70·6	—		—		—	—	+ 2·2	—	—
15	70·8	56·5		87·5		−·0011	+·0007	+ 2·2	+ 1·9	+·0005
20	70·3	—		—		—	—	+ 1·9	—	—
25	70·3	56·4		86·5		−·0012	+·0006	+ 1·8	+ 1·9	+·0004
30	68·8	—		—		—	—	+ 0·8	—	—
35	68·9	58·8		82·5		−·0009	+·0004	+ 0·8	+ 1·4	+·0003
40	68·3	—		—		—	—	+ 0·4	—	—
45	68·1	59·1		82·5		−·0009	+·0004	+ 0·1	+ 1·4	+·0003
50	68·1	—		—		—	—	+ 0·1	—	—
55	68·1	—		—		—	—	+ 0·1	—	—
08 00	68·2	58·1	66·0	82·5	65·0	−·0011	+·0003	+ 0·1	+ 1·5	+·0002

CAPE OF GOOD HOPE, 1842. FEBRUARY 23—24.

MEAN MONTHLY READINGS OF THE MAGNETOMETERS.

Mean Göttingen Time.	Declination.	H. F. at 70°·6.	V. F. at 70°·0.	Mean Göttingen Time.	Declination.	H. F. at 70°·6.	V. F. at 70°·0.
Hours.	Sc. Div.	Sc. Div.	Sc. Div.	Hours.	Sc. Div.	Sc. Div.	Sc. Div.
0	44·7	74·0	44·6	12	43·9	74·6	52·3
1	46·2	73·1	44·6	13	44·1	75·0	51·8
2	46·6	73·3	47·0	14	43·3	75·5	52·4
3	45·9	73·2	50·1	15	43·2	75·4	52·7
4	44·7	73·5	52·4	16	43·1	75·5	52·7
5	43·8	73·1	54·0	17	42·6	75·7	53·4
6	43·9	72·3	53·4	18	41·7	76·7	54·6
7	43·8	71·9	53·0	19	39·9	76·9	56·4
8	43·5	72·0	53·3	20	38·0	76·5	57·2
9	43·5	71·9	53·6	21	37·6	75·4	53·9
10	43·5	72·4	53·2	22	39·9	73·9	49·0
11	43·6	73·1	52·4	23	42·2	73·3	46·6

Coefficients (A), Approximate Absolute Values (B).

(A) Declin. $a = 0'{\cdot}751$

H. F. $k = {\cdot}00018$, $q = {\cdot}00028$

V. F. $k = {\cdot}00011$, $q = {\cdot}00005$

(B) Approx. $\psi = 29^\circ\,05'$, X = 4·48, Y = 6·00, $\theta = -53^\circ\,12'$, $\phi = 7'\cdot 48$

OBSERVATIONS OF THE MAGNETOMETERS.

The H. F. was observed 2m. 30s. before, and the V. F. 2m. 30s. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
23 22 00	44·0	84·5	66·0	38·8	65·8	+·0007	−·0013	+ 3·1	− 3·3	−·0006
14	45·7	84·5		38·5		+·0007	−·0013	+ 4·0	− 3·3	−·0006
20	46·1	84·2		38·0		+·0006	−·0013	+ 4·1	− 3·1	−·0006
26	46·9	84·6		37·8		+·0007	−·0013	+ 4·6	− 3·3	−·0006
32	47·5	84·8		37·5		+·0008	−·0013	+ 4·8	− 3·5	−·0006
38	47·9	85·1		37·2		+·0008	−·0013	+ 5 0	− 3·5	−·0006
44	48·0	85·2		36·9		+·0009	−·0013	+ 4·9	− 3·7	−·0006
50	48·5	85·0		36·8		+·0008	−·0013	+ 5·1	− 3·5	−·0006
56	48·9	84·5		37·1		+·0008	−·0012	+ 5·2	− 3·3	−·0005
23 02	48·9	83·7	66·2	37·7	66·3	+·0006	−·0011	+ 5·0	− 2·8	−·0005
08	48·9	82·7		39·7		+·0005	−·0009	+ 4·8	− 2·3	−·0004
18	48·9	—		—		—	—	+ 4·4	—	—
24	49·0	81·7		41·9		+·0003	−·0006	+ 4·4	− 1·5	−·0003
30	49·2	81·3		42·5		+·0002	−·0005	+ 4·3	− 1·2	−·0003
36	49·2	81·0		43·2		+·0002	−·0004	+ 4·1	− 1·0	−·0002
42	49·4	81·1		43·4		+·0002	−·0004	+ 4·1	− 1·0	−·0002
48	49·5	80·8		43·6		+·0001	−·0003	+ 4·0	− 0·7	−·0002
54	49·2	80·2		44·2		+·0001	−·0002	+ 3·5	− 0·5	−·0001
24 00 00	49·2	80·2	66·8	44·8	66·8	+·0001	−·0001	+ 3·4	− 0·3	·0000
01 00	51·3	80·2	67·2	45·3	67·0	+·0003	·0000	+ 3·8	− 0·5	+·0001
02 00	47·0	82·0	67·7	50·0	67·3	+·0008	+·0002	+ 0·3	− 1·0	+·0004
03 00	46·4	79·5	68·0	54·0	67·6	+·0004	+·0003	+ 0·4	− 0·2	+·0003
04 00	42·6	73·7	68·2	52·5	67·6	−·0006	−·0001	+ 1·6	+ 0·8	−·0003
05 00	43·9	71·6	68·1	58·5	67·8	−·0010	+·0004	+ 0·1	+ 2·3	−·0001
06 00	44·6	62·2	68·2	62·4	67·8	−·0025	+·0009	+ 0·5	+ 5·6	−·0003
30	41·6	60·1		67·0		−·0029	+·0024	− 1·7	+ 8·7	+·0005
36	40·9	59·1		69·4		−·0031	+·0027	− 2·2	+ 9·6	+·0007
42	39·4	58·1		71·5		−·0032	+·0029	− 3·3	+10·1	+·0007
48	38·5	57·7		73·9		−·0033	+·0032	− 4·0	+10·7	+·0009
54	38·2	57·7		74·9		−·0033	+·0033	− 4·2	+10·9	+·0010
07 02	38·5	56·0	67·9	75·4	67·8	−·0036	+·0024	− 4·0	+ 9·9	+·0003
08	38·2	54·2		76·7		−·0039	+·0025	− 4·2	+10·6	+·0002
14	38·0	53·4		78·1		−·0041	+·0026	− 4·3	+11·0	+·0002
20	36·9	53·0		78·7		−·0041	+·0027	− 5·1	+11·2	+·0003
26	36·5	53·3		78·1		−·0041	+·0026	− 5·4	+11·0	+·0002
32	36·7	53·7		77·4		−·0040	+·0026	− 5·2	+10·9	+·0002
38	36·8	53·1		77·0		−·0041	+·0025	− 5·1	+10·9	+·0001
44	36·4	51·8		78·9		−·0044	+·0027	− 5·4	+11·7	+·0002

1842.
Cape of Good Hope.

Feb. 24.

OBSERVATIONS OF THE MAGNETOMETERS. The H. F. was observed 2m. 30s. before, and the V. F. 2m. 30s. after the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta \psi$	$\Delta \theta$	$\frac{\Delta \phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
24 07 50	35·8	50·4		78·3		−·0046	+·0027	− 5·9	+12·0	+·0001
56	35·9	50·2		79·3		−·0046	+·0028	− 5·7	+12·2	+·0002
08 02	35·9	50·1	68·1	78·4	68·0	−·0046	+·0027	− 5·7	+12·0	+·0001
08	35·4	50·2		78·1		−·0046	+·0026	− 6·1	+11·9	·0000
14	35·3	51·3		77·7		−·0045	+·0026	− 6·2	+11·7	+·0001
20	34·9	51·1		77·8		−·0045	+·0026	− 6·5	+11·7	+·0001
26	33·9	50·3		79·8		−·0046	+·0028	− 7·2	+12·2	+·0002
32	32·9	49·8		80·8		−·0047	+·0029	− 8·0	+12·5	+·0002
38	32·0	48·8		82·1		−·0049	+·0030	− 8·6	+13·0	+·0002
44	31·9	47·9		82·3		−·0051	+·0031	− 8·7	+13·5	+·0002
50	32·0	46·8		82·1		−·0053	+·0030	− 8·6	+13·7	·0000
56	32·7	46·1		81·3		−·0054	+·0029	− 8·1	+13·7	−·0001
09 02	33·0	45·7	67·8	81·6	67·8	−·0055	+·0030	− 7·9	+14·0	·0000
08	32·9	46·0		80·9		−·0055	+·0029	− 8·0	+13·8	−·0001
14	33·6	46·3		79·3		−·0054	+·0027	− 7·4	+13·3	−·0002
20	34·2	46·2		78·0		−·0055	+·0026	− 7·0	+13·3	−·0003
26	34·2	46·3		77·8		−·0054	+·0026	− 7·0	+13·2	−·0003
32	33·9	47·1		76·7		−·0053	+·0025	− 7·2	+12·9	−·0003
38	33·9	50·1		74·6		−·0048	+·0022	− 7·2	+11·5	−·0003
44	33·0	50·6		75·4		−·0047	+·0023	− 7·9	+11·5	−·0002
50	32·0	51·1		75·2		− 0046	+·0023	− 8·6	+11·4	−·0002
56	31·2	51·9		77·0		−·0045	+·0025	− 9·3	+11·5	·0000
10 02	29·6	52·5	67·7	76·8	67·7	−·0044	+·0025	−10·4	+11·4	·0000
08	29·0	53·0		76·6		−·0043	+·0025	−10·9	+11·2	+·0001
14	29·2	52·2		75·2		−·0045	+·0023	−10·7	+11·2	−·0001
20	29·0	52·2		75·7		−·0045	+·0024	−10·9	+11·4	−·0001
26	29·2	52·9		74·4		−·0044	+·0022	−10·7	+10·9	−·0002
32	30·1	52·8		72·6		−·0045	+·0021	−10·1	+10·9	−·0003
38	30·8	52·5		71·9		−·0045	+·0020	− 9·6	+10·7	−·0003
44	30·3	52·1		71·1		−·0046	+·0019	−10·0	+10·7	−·0004
50	30·9	51·4		70·9		−·0047	+·0019	− 9·5	+10·9	−·0005
56	30·9	51·8		70·6		−·0047	+·0019	− 9·5	+10·9	−·0005
11 02	31·5	52·8	67·5	69·6	67·4	−·0045	+·0018	− 9·1	+10·4	−·0005
08	31·2	54·6		67·5		−·0043	+·0015	− 9·3	+ 9·6	−·0006
14	32·2	52·0		65·8		−·0047	+·0013	− 8·6	+ 9·9	−·0008
20	31·9	60·2		63·1		−·0033	+·0010	− 8·9	+ 7·1	−·0005
26	31·9	62·1		61·0		−·0030	+·0008	− 8·9	+ 6·3	−·0006
32	32·1	62·8		58·8		−·0029	+·0006	− 8·8	+ 5·8	−·0007
38	32·4	62·2		59·6		−·0031	+·0007	− 8·6	+ 6·3	−·0007
44	31·1	61·7		62·9		−·0032	+·0010	− 9·5	+ 6·9	−·0005
50	29·1	61·7		64·4		−·0032	+·0012	−11·0	+ 7·3	−·0004
56	28·2	61·8		63·7		−·0033	+·0011	−11·8	+ 7·3	−·0005
12 02	29·2	62·2	67·1	61·1	67·1	−·0032	+·0008	−11·0	+ 6·6	−·0006
08	30·2	61·7		59·6		−·0033	+·0007	−10·3	+ 6·6	−·0007
14	31·5	61·0		57·9		−·0035	+·0005	− 9·3	+ 6·6	−·0009
20	32·6	60·1		58·5		−·0036	+·0006	− 8·6	+ 6·9	−·0009
26	32·2	60·4		59·4		−·0036	+·0007	− 8·9	+ 7·1	−·0008
32	32·8	64·1		53·9		−·0030	+·0001	− 8·4	+ 5·1	−·0010
38	35·9	67·0		47·5		−·0024	−·0006	− 6·1	+ 3·0	−·0012
44	38·2	68·6		43·2		−·0022	−·0011	− 4·4	+ 1·8	−·0015
50	40·4	69·3		39·2		−·0021	−·0015	− 2·8	+ 1·0	−·0017
56	42·2	70·5		38·1		−·0019	−·0017	− 1·4	+ 0·3	−·0018
13 02	43·0	72·6	66·8	37·0	67·1	−·0015	−·0018	− 0·8	− 0·5	−·0017
08	43·0	74·1		36·1		−·0012	−·0019	− 0·8	− 1·2	−·0017
14	43·9	74·6		35·5		−·0012	−·0020	0·0	− 1·3	−·0017
20	43·9	74·9		37·2		−·0011	−·0018	0·0	− 1·2	−·0016
26	42·1	74·6		40·6		−·0012	−·0014	− 1·3	− 0·3	−·0013
32	40·0	74·3		45·1		−·0013	−·0009	− 2·8	+ 0·7	−·0010
38	36·9	74·2		48·7		−·0013	−·0005	− 5·0	+ 1·3	−·0008
44	34·0	73·4		51·2		−·0014	−·0003	− 7·1	+ 1·8	−·0007
50	33·0	73·4		52·5		−·0015	−·0001	− 7·9	+ 2·3	−·0006
56	32·9	73·1		52·0		−·0015	−·0002	− 7·9	+ 2·1	−·0007

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OBSERVATIONS OF THE MAGNETOMETERS.

The H. F. was observed 2m. 30s. before, and the V. F. 2m. 30s. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
						$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta \psi$	$\Delta \theta$	$\frac{\Delta \phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
24 14 02	33·1	72·0	66·7	52·3	66·8	−·0017	−·0002	− 7·7	+ 2·5	−·0007
08	33·2	72·0		52·4		−·0017	−·0002	− 7·6	+ 2·5	−·0007
14	33·8	72·1		52·2		−·0017	−·0002	− 7·1	+ 2·5	−·0007
20	34·0	72·8		50·8		−·0016	−·0003	− 7·0	+ 2·1	−·0008
26	35·0	73·4		49·5		−·0015	−·0005	− 6·2	+ 1·7	−·0009
32	35·3	72·6		49·1		−·0016	−·0006	− 5·9	+ 1·7	−·0010
38	36·0	72·3		48·9		−·0017	−·0006	− 5·4	+ 1·8	−·0010
44	36·0	72·1		49·6		−·0017	−·0005	− 5·4	+ 2·0	−·0009
50	35·8	72·4		49·4		−·0016	−·0005	− 5·6	+ 1·8	−·0009
56	36·1	72·6		49·1		−·0016	−·0006	− 5·3	+ 1·7	−·0010
15 02	36·2	73·4	66·7	49·2	66·7	−·0013	−·0006	− 5·3	+ 1·2	−·0008
08	36·8	72·5		48·8		−·0015	−·0006	− 4·8	+ 1·5	−·0009
14	37·1	71·3		49·6		−·0017	−·0005	− 4·6	+ 2·0	−·0009
20	36·4	71·8		50·8		−·0016	−·0004	− 5·1	+ 2·0	−·0008
26	36·0	72·0		50·3		−·0016	−·0004	− 5·4	+ 2·0	−·0008
32	36·3	72·0		50·6		−·0016	−·0004	− 5·1	+ 2·0	−·0008
38	36·1	71·8		50·5		−·0016	−·0004	− 5·3	+ 2·0	−·0008
44	36·8	71·9		50·5		−·0016	−·0004	− 4·7	+ 2·0	−·0008
50	36·5	71·8		50·5		−·0016	−·0004	− 5·0	+ 2·0	−·0008
56	37·0	72·0		49·9		−·0016	−·0005	− 4·6	+ 1·8	−·0009
16 02	37·2	72·2	66·6	49·4	66·6	−·0016	−·0005	− 4·4	+ 1·8	−·0009
08	37·6	72·2		49·2		−·0016	−·0006	− 4·1	+ 1·7	−·0010
14	37·9	72·4		48·9		−·0015	−·0006	− 3·8	+ 1·5	−·0009
20	38·1	72·0		48·9		−·0016	−·0006	− 3·6	+ 1·7	−·0010
26	38·5	72·4		49·1		−·0016	−·0006	− 3·3	+ 1·7	−·0010
32	38·6	72·6		49·5		−·0015	−·0006	− 3·2	+ 1·5	−·0009
38	38·5	72·7		49·4		−·0015	−·0006	− 3·2	+ 1·5	−·0009
44	38·9	73·2		50·0		−·0014	−·0005	− 2·9	+ 1·5	−·0008
50	38·4	73·8		49·6		−·0013	−·0006	− 3·2	+ 1·2	−·0008
56	38·9	74·2		47·5		−·0013	−·0008	− 2·8	+ 0·8	−·0010
17 02	38·9	74·7	66 4	50·0	66·6	−·0012	−·0005	− 2·8	+ 1·2	−·0007
08	38·1	74·9		49·8		−·0012	−·0006	− 3·3	+ 1·0	−·0008
14	38·1	74·3		50·4		−·0013	−·0005	− 3·2	+ 1·3	−·0008
20	38·1	74·3		51·3		−·0013	−·0005	− 3·2	+ 1·3	−·0008
26	37·9	73·6		52·1		−·0015	−·0004	− 3·2	+ 1·8	−·0008
32	37·3	74·0		52·4		−·0014	−·0004	− 3·6	+ 1·7	−·0008
38	37·0	74·2		52·4		−·0014	−·0004	− 3·8	+ 1·7	−·0008
44	37·0	74·8		52·3		−·0013	−·0004	− 3·8	+ 1·5	−·0007
50	37·1	74·7		52·3		−·0014	−·0004	− 3·6	+ 1·7	−·0008
56	36·9	74·8		52·7		−·0014	−·0004	− 3·7	+ 1·7	−·0008
18 02	36·8	74·8	66·2	52·0	66·1	−·0014	−·0005	− 3·7	+ 1·5	−·0008
08	37·0	74·9		52·2		−·0014	−·0005	− 3·4	+ 1·5	−·0008
14	37·1	74·9		52·4		−·0014	−·0005	− 3·2	+ 1·5	−·0008
20	37·1	74·8		52·3		−·0014	−·0005	− 3 1	+ 1·5	−·0008
26	37·1	74·7		52·8		−·0015	−·0005	− 2·9	+ 1·7	−·0009
32	37·0	74·8		52·5		−·0015	−·0005	− 2·9	+ 1·7	−·0009
38	37·0	74·9		52·4		−·0014	−·0006	− 2·7	+ 1·3	−·0009
44	37·0	75·0		52·9		−·0014	− 0005	− 2·6	+ 1·5	−·0008
50	36·7	74·9		52·6		−·0015	−·0006	− 2·7	+ 1·5	−·0009
56	36·6	74·7		52·6		−·0015	−·0006	− 2·6	+ 1·5	−·0009
19 02	36·9	74·4	66·0	53·2	65·9	−·0018	−·0006	− 2·3	+ 2·0	−·0010
08	36·6	74·2		54·2		−·0018	−·0005	− 2·3	+ 2·1	−·0010
14	36·1	74·2		54·4		−·0018	−·0005	− 2·6	+ 2·1	−·0010
20	36·1	74·1		54·6		−·0018	−·0004	− 2·4	+ 2·3	−·0009
26	36·0	73·6		54·6		−·0019	−·0004	− 2·3	+ 2·5	−·0009
32	36·0	73·5		54·7		−·0019	−·0004	− 2·2	+ 2·5	−·0009
38	35·9	73·3		54·6		−·0019	−·0005	− 2·2	+ 2·3	−·0010
44	36·0	73·1		54·7		−·0019	−·0005	− 2·0	+ 2·3	−·0010
50	36·0	72·9		54·6		−·0020	−·0005	− 1·8	+ 2·5	−·0010
56	36·0	72 9		54·9		−·0019	−·0004	− 1·7	+ 2·5	−·0009
20 02	36·0	72·8	66·0	54·6	66·0	−·0020	−·0005	− 1·5	+ 2·5	−·0010
08	36·0	72·5		54·5		−·0020	−·0005	− 1·5	+ 2·5	−·0010

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Cape of Good Hope.

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OBSERVATIONS OF THE MAGNETOMETERS. The H. F. was observed 2m. 30s. before, and the V. F. 2m. 30s. after the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
24 20 14	36·0	72·5		54·5		−·0020	−·0004	− 1·4	+ 2·6	−·0010
20	36·3	72·3		53·5		−·0020	−·0005	− 1·2	+ 2·5	−·0010
26	36·3	72·0		53·4		−·0021	−·0005	− 1·1	+ 2·6	−·0011
32	36·2	72·0		53·0		−·0020	−·0005	− 1·2	+ 2·5	−·0010
38	36·4	71·8		52·7		−·0021	−·0005	− 1·1	+ 2·6	−·0011
44	36·6	71·5		52·0		−·0021	−·0005	− 0·8	+ 2·6	−·0011
50	36·5	71·1		51·9		−·0021	−·0005	− 0·9	+ 2·6	−·0011
56	36·7	70·9		51·3		−·0022	−·0005	− 0·7	+ 2·8	−·0011
21 02	36·8	70·7	65·8	50·9	66·0	−·0022	−·0005	− 0·6	+ 2·8	−·0011
08	36·9	70·5		50·5		−·0022	−·0005	− 0·7	+ 2·8	−·0011
14	36·9	70·3		49·9		−·0022	−·0005	− 0·9	+ 2·8	−·0011
20	36·9	70·2		49·5		−·0022	−·0005	− 1·1	+ 2·8	−·0011
26	37·0	70·0		49·3		−·0022	−·0005	− 1·1	+ 2·8	−·0011
32	37·1	69·1		48·7		−·0023	−·0005	− 1·3	+ 3·0	−·0011
38	37·3	69·9		48·7		−·0021	−·0004	− 1·3	+ 2·8	−·0010
44	37·8	69·7		48·1		−·0021	−·0005	− 1·1	+ 2·6	−·0011
50	38·2	69·5		47·6		−·0022	−·0005	− 0·9	+ 2·8	−·0011
56	38·5	69·3		47·8		−·0021	−·0004	− 0·9	+ 2·8	−·0010
22 02	38·9	69·2	66·0	46·5	66·2	−·0021	−·0005	− 0·8	+ 2·6	−·0011
08	39·1	69·1		46·5		−·0021	−·0004	− 0·8	+ 2·8	−·0010
14	39·2	68·9		46·2		−·0021	−·0004	− 0·9	+ 2·8	−·0010
20	39·7	69·0		46·0		−·0021	−·0004	− 0·7	+ 2·8	−·0010
26	39·9	69·0		46·0		−·0021	−·0004	− 0·7	+ 2·8	−·0010
32	40·1	69·0		45·3		−·0021	−·0005	− 0·8	+ 2·6	−·0011
38	40·4	69·1		44·4		−·0020	−·0005	− 0·7	+ 2·5	−·0010
44	40·5	69·8		44·0		−·0019	−·0005	− 0·8	+ 2·3	−·0010
50	40·6	70·2		43·0		−·0018	−·0006	− 0·8	+ 2·0	−·0010
56	40·9	70·3		43·3		−·0017	−·0006	− 0·8	+ 1·8	−·0010
23 02	41·1	70·9	66·5	43·3	66·6	−·0016	−·0005	− 0·8	+ 1·8	−·0009

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For Mean Monthly Readings, *see* page 5.

VAN DIEMEN ISLAND, 1842. FEBRUARY 24.

24 05 00	62·9	54·9	74·1	55·6	73·4	+·0002	+·0011	− 4·1	+ 1·0	+·0010
15	64·7	54·0		59·8		+·0001	+·0013	− 2·5	+ 1·3	+·0012
20	64·5	—		—		—	—	− 2·5	—	—
25	63·7	56·8		54·3		+·0005	+·0012	− 2·9	+ 0·8	+·0011
30	62·7	—		—		—	—	− 3·7	—	—
35	61·5	56·6		48·3		+·0004	+·0010	− 4·4	+ 0·7	+·0009
40	60·2	—		—		—	—	− 5·2	—	—
45	58·0	54·4		42·8		+·0002	+·0009	− 6·6	+ 0·8	+·0008
50	57·9	—		—		—	—	− 6·6	—	—
06 00	47·5	55·9	74·0	21·5	74·5	+·0004	+·0002	−13·8	− 0·2	+·0002
05	47·1	—		—		—	—	−14·1	—	—
10	50·4	—		—		—	—	−11·8	—	—
15	54·0	52·2		33·5		−·0001	+·0006	− 9·2	+ 0·8	+·0005
20	60·1	—		—		—	—	− 5·0	—	—
25	62·2	58·5		27·2		+·0007	+·0004	− 3·4	− 0·3	+·0004
30	60·1	—		—		—	—	− 5·0	—	—
35	58·6	63·8		12·1		+·0014	−·0001	− 6·1	− 1·6	+·0001
40	57·0	—		—		—	—	− 7·2	—	—
45	55·5	66·7		3·1		+·0018	−·0005	− 8·4	− 2·5	−·0002
50	55·8	—		—		—	—	− 8·2	—	—
07 00	54·7	63·7	73·6	0·9	73·7	+·0014	−·0007	− 9·0	− 2·3	−·0005
10	52·9	—		—		—	—	−10·3	—	—
15	51·5	58·6		9·5		+·0007	−·0003	−11·5	− 1·1	−·0002
20	49·0	—		—		—	—	−13·2	—	—
25	47·7	53·1		15·3		−·0001	−·0001	−14·2	0·0	−·0001
30	47·1	—		—		—	—	−14·6	—	—
35	48·6	57·3		19·7		+·0005	·0000	−13·6	− 0·4	+·0001
40	51·2	—		—		—	—	−11·8	—	—
45	57·2	67·7		21·8		+·0018	+·0001	− 7·6	− 1·8	+·0003
50	61·5	—		—		—	—	− 4·6	—	—
55	63·8	—		—		—	—	− 2·9	—	—

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Van Diemen Island.
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OBSERVATIONS OF THE MAGNETOMETERS.

The H. F. was observed 2m. 30s. before, and the V. F. 2m. 30s. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
24 08 00	63·9	70·6	73·0	20·3	74·0	+·0021	·0000	− 2·9	− 2·3	+·0002
09 00	66·6	65·7	73·0	60·8	72·5	+·0015	+·0011	− 0·4	− 0·4	+·0011
10 00	86·4	45·4	73·0	80·4	71·0	−·0007	+·0015	+14·6	+ 2·4	+·0013
25	91·0	—		—		—	—	+18·7	—	—
30	86·5	—		—		—	—	+15·6	—	—
35	83·1	38·6		55·9		−·0015	+·0006	+13·4	+ 2·3	+·0004
40	81·4	—		—		—	—	+12·3	—	—
45	79·5	39·2		44·3		−·0014	+·0002	+11·1	+ 1·7	·0000
50	77·5	—		—		—	—	+ 9·8	—	—
55	80·6	—		—		—	—	+12·2	—	—
11 00	79·5	38·5	72·9	43·9	71·3	−·0015	+·0002	+11·6	+ 1·8	+·0010
05	75·3	—		—		—	—	+ 8·6	—	—
10	75·5	—		—		—	—	+ 8·8	—	—
15	74·4	33·8		47·6		−·0020	+·0003	+ 8·0	+ 2·5	·0000
20	74·4	—		—		—	—	+ 8·0	—	—
12 00	73·6	30·4	72·8	57·9	71·5	−·0022	+·0007	+ 7·6	+ 3·1	+·0004

ST. HELENA, 1842. FEBRUARY 24—25.

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St. Helena.
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MEAN MONTHLY READINGS OF THE MAGNETOMETERS.

Mean Göttingen Time.	Declination.	H. F. at 68°·7.	V. F. at 68°·3.	Mean Göttingen Time.	Declination.	H. F. at 68°·7.	V. F. at 68°·3.
Hours.	Sc. Div.	Sc. Div.	Sc. Div.	Hours.	Sc. Div.	Sc. Div.	Sc. Div.
0	23·7	60·4	12·4	12	23·7	54·2	15·0
1	25·0	60·5	—	14	23·4	54·2	14·9
2	25·1	59·7	12·5	15	23·4	54·0	—
3	25·4	58·5	—	16	23·3	54·3	14·6
4	23·9	57·4	14·4	18	23·1	54·6	14·0
5	22·8	56·2	—	19	23·0	54·7	—
6	22·7	55·5	15·0	20	20·7	55·6	14·2
8	23·2	54·2	14·9	21	18·5	56·6	—
10	23·2	53·4	14·9	22	18·6	58·4	14·3
11	23·3	53·7	—	23	20·7	59·7	—

Coefficients (A), Approximate Absolute Values (B.)

(A) Declin. a = 0′·711
H. F. k = ·00019, q = ·00028
V. F. k = ·0005, q = ·00002

(B) Approx. ψ = 23°02′, X = 5·57, Y = 2·19, θ = − 21°29′, ϕ = 6·00

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 2m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
24 06 02	20·9	—	71·6	—	71·8	—	—	− 1·3	—	—
08	20·3	39·0		24·5		−·0023	+·0048	− 1·7	+ 8·2	−·0013
14	20·2	39·0		24·7		−·0023	+·0049	− 1·8	+ 8·5	−·0013
20	20·7	38·9		25·0		−·0023	+·0051	− 1·5	+ 8·7	−·0013
26	21·0	38·3		25·0		−·0024	+·0051	− 1·3	+ 8·8	−·0014
32	21·0	36·3		24·7		−·0028	+·0049	− 1·3	+ 8·9	−·0018
38	20·6	35·0		24·7		−·0030	+·0049	− 1·6	+ 9·3	−·0019
44	20·0	33·0		24·6		−·0034	+·0049	− 2·0	+ 9·8	−·0023
50	19·8	32·0		24·6		−·0035	+·0049	− 2·2	+ 9·9	−·0024
56	19·2	31·8		24·6		−·0036	+·0049	− 2·7	+10·0	−·0025
07 02	19·0	30·9	71·7	24·6	71·5	−·0037	+·0049	− 2·8	+10·1	−·0025
08	19·0	29·8		24·6		−·0039	+·0049	− 2·8	+10·4	−·0027
14	19·0	28·8		24·6		−·0041	+·0049	− 2·8	+10·6	−·0029
20	18·8	28·2		24·6		−·0042	+·0049	− 3·0	+10·7	−·0030
26	18·8	28·2		24·6		−·0042	+·0049	− 3·0	+10·7	−·0030

1842.
St. Helena.

Feb. 24.

OBSERVATIONS OF THE MAGNETOMETERS. The Declination was observed 2m. before, and the V. F. 2m. after the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
24 07 32	18·7	—		—		—	—	− 3·1	—	—
38	18·4	—		—		—	—	− 3·3	—	—
44	18·0	—		—		—	—	− 3·7	—	—
50	17·8	—		—		—	—	− 3·9	—	—
56	17·7	—		—		—	—	− 4·0	—	—
08 02	17·6	—		—		—	—	− 4·0	—	—
08	17·2	—		—		—	—	− 4·3	—	—
14	17·1	—		—		—	—	− 4·4	—	—
20	16·9	—		—		—	—	− 4·5	—	—
26	16·4	—		—		—	—	− 4·9	—	—
32	16·2	—		—		—	—	− 5·0	—	—
38	16·1	—		—		—	—	− 5·1	—	—
44	16·1	—		—		—	—	− 5·1	—	—
50	16·0	—		—		—	—	− 5·1	—	—
56	16·0	—		—		—	—	− 5·1	—	—
09 02	16·0	19·9	71·3	24·2	70·9	−·0057	+·0047	− 5·1	+12·2	−·0043
08	15·7	19·6		24·7		−·0058	+·0050	− 5·4	+12·7	−·0043
14	15·9	20·1		25·0		−·0057	+·0051	− 5·2	+12·7	−·0042
20	15·8	20·0		25·0		−·0057	+·0051	− 5·3	+12·7	−·0042
26	15·8	—		—		—	—	− 5·3	—	—
32	16·0	19·9		24·6		−·0057	+·0049	− 5·1	+12·5	−·0043
38	16·3	20·8		24·4		−·0056	+·0048	− 4·9	+12·2	−·0042
44	16·4	20·0		23·9		−·0057	+·0046	− 4·9	+12·1	−·0043
50	15·6	20·9		24·0		−·0056	+·0046	− 5·4	+12·0	−·0042
56	15·3	21·0		23·8		−·0055	+·0045	− 5·6	+11·8	−·0041
10 02	14·8	—	70·9	—	70·5	—	—	− 6·0	—	—
08	14·4	21·1		23·8		−·0055	+·0045	− 6·3	+11·8	−·0041
14	14·4	21·0		23·7		−·0056	+·0045	− 6·3	+11·9	−·0042
20	14·2	20·9		23·7		−·0056	+·0045	− 6·4	+11·9	−·0042
26	14·0	20·2		23·7		−·0057	+·0045	− 6·5	+12·0	−·0043
32	14·2	20·1		23·7		−·0058	+·0044	− 6·5	+12·0	−·0044
38	14·5	19·9		23·6		−·0058	+·0044	− 6·3	+12·0	−·0044
44	13·9	19·9		23·5		−·0058	+·0043	− 6·7	+11·9	−·0044
50	13·3	19·1		23·6		−·0060	+·0044	− 7·1	+12·2	−·0046
56	13·0	—		—		—	—	− 7·3	—	—
11 02	13·0	—		—		—	—	− 7·3	—	—
08	13·3	—		—		—	—	− 7·1	—	—
14	14·0	—		—		—	—	− 6·7	—	—
20	14·0	—		—		—	—	− 6·7	—	—
26	13·8	—		—		—	—	− 6·9	—	—
32	13·4	—		—		—	—	− 7·2	—	—
38	13·8	—		—		—	—	− 6·9	—	—
44	13·6	—		—		—	—	− 7·1	—	—
50	13·0	—		—		—	—	− 7·5	—	—
56	13·0	—		—		—	—	− 7·6	—	—
12 02	13·9	—	70·3	—	70·1	—	—	− 7·0	—	—
08	14·0	—		—		—	—	− 6·9	—	—
14	14·6	26·5		4·5		−·0048	−·0053	− 6·5	− 0·6	−·0049
20	14·9	26·8		4·9		−·0048	−·0051	− 6·3	− 0·2	−·0048
26	14·7	27·0		5·3		−·0047	−·0049	− 6·4	− 0·2	−·0047
32	15·0	29·0		5·8		−·0043	−·0046	− 6·1	− 0·2	−·0043
38	15·9	32·0		6·0		−·0037	−·0045	− 5·5	− 0·9	−·0038
44	16·2	35·0		6·4		−·0032	−·0043	− 5·3	− 1·3	−·0034
50	16·9	37·0		6·4		−·0028	−·0043	− 4·8	− 1·8	−·0030
56	17·6	39·0		6·7		−·0024	−·0042	− 4·3	− 2·1	−·0026
13 02	17·9	42·0	70·4	7·0	69·9	−·0018	−·0040	− 4·1	− 2·6	−·0021
08	17·5	43·8		7·2		−·0015	−·0039	− 4·4	− 2·8	−·0018
14	17·8	43·9		7·8		−·0015	−·0036	− 4·2	− 2·5	−·0018
20	18·0	44·0		7·8		−·0015	−·0036	− 4·0	− 2·5	−·0018
26	17·4	43·9		7·1		−·0015	−·0040	− 4·4	− 2·8	−·0018
32	16·8	43·0		6·5		−·0017	−·0042	− 4·8	− 2·8	−·0020
38	16·0	41·3		6·4		−·0020	−·0043	− 5·4	− 2·7	−·0023
44	15·6	39·9		6·4		−·0022	−·0043	− 5·6	− 2·5	−·0025
50	15·4	38·9		4·8		−·0024	−·0051	− 5·7	− 3·2	−·0028
56	15·4	—		—		—	—	− 5·7	—	—

OBSERVATIONS OF THE MAGNETOMETERS. The Declination was observed 2m. before, and the V. F. 2m. after the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta \psi$	$\Delta \theta$	$\frac{\Delta \phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
24 14 02	15·6	37·9	70·4	4·6	69·7	—·0026	—·0052	— 5·6	— 3·1	—·0030
08	15·7	37·8		5·7		—·0027	—·0046	— 5·5	— 2·1	—·0029
14	16·0	37·9		5·5		—·0026	—·0047	— 5·3	— 2·5	—·0029
20	16·1	38·2		5·7		—·0026	—·0046	— 5·2	— 2·4	—·0029
26	16·4	38·8		5·6		—·0025	—·0047	— 5·0	— 2·6	—·0028
32	16·5	38·2		5·9		—·0026	—·0045	— 4·9	— 2·1	—·0028
38	16·7	38·0		6·0		—·0027	—·0044	— 4·8	— 2·0	—·0029
44	16·6	38·3		5·7		—·0026	—·0046	— 4·9	— 2·4	—·0029
50	16·4	38·3		5·7		—·0026	—·0046	— 5·0	— 2·4	—·0029
56	16·4	39·2		5·6		—·0024	—·0046	— 5·0	— 2·6	—·0027
15 02	16·7	39·4	70·0	6·1	69·5	—·0024	—·0044	— 4·8	— 2·4	—·0027
08	16·6	39·0		6·1		—·0025	—·0044	— 4·9	— 2·1	—·0027
14	16·8	38·8		6·1		—·0026	—·0044	— 4·7	— 2·1	—·0028
20	16·3	38·9		5·9		—·0025	—·0044	— 5·1	— 2·1	—·0027
26	16·1	39·0		6·3		—·0025	—·0042	— 5·2	— 2·0	—·0027
32	16·3	39·3		6·3		—·0025	—·0042	— 5·0	— 2·0	—·0027
38	16·4	39·5		6·3		—·0025	—·0042	— 4·9	— 2·0	—·0027
44	16·8	39·9		6·3		—·0024	—·0042	— 4·7	— 2·1	—·0026
50	16·8	39·9		6·3		—·0024	—·0042	— 4·7	— 2·1	—·0026
56	16·9	40·8		6·3		—·0022	—·0042	— 4·6	— 2·4	—·0025
16 02	17·0	41·0	69·9	6·3	69·3	—·0022	—·0042	— 4·5	— 2·4	—·0025
08	17·1	41·0		6·3		—·0022	—·0042	— 4·4	— 2·4	—·0025
14	17·4	41·0		6·4		—·0022	—·0041	— 4·2	— 2·1	—·0024
20	17·6	41·5		7·1		—·0021	—·0037	— 4·1	— 1·9	—·0023
26	17·8	41·8		7·4		—·0021	—·0036	— 4·0	— 1·8	—·0023
32	18·0	42·0		6·7		—·0020	—·0039	— 3·7	— 2·1	—·0022
38	18·0	42·2		6·6		—·0020	—·0039	— 3·7	— 2·1	—·0022
44	18·0	42·6		6·3		—·0019	—·0041	— 3·7	— 2·6	—·0022
50	18·0	43·1		6·4		—·0019	—·0040	— 3·7	— 2·5	—·0022
56	18·1	43·6		6·5		—·0018	—·0039	— 3·7	— 2·5	—·0021
17 02	18·0	44·0	69·8	6·2	69·4	—·0017	—·0041	— 3·7	— 2·8	—·0020
08	17·8	—		—		—	—	— 3·9	—	—
14	18·0	—		—		—	—	— 3·7	—	—
20	18·1	—		—		—	—	— 3·7	—	—
26	18·2	43·1		5·2		—·0019	—·0045	— 3·6	— 3·1	—·0023
32	18·0	—		—		—	—	— 3·7	—	—
38	18·0	—		—		—	—	— 3·7	—	—
44	17·8	43·9		5·0		—·0018	—·0046	— 3·8	— 3·3	—·0022
50	17·8	44·1		5·5		—·0017	—·0043	— 3·8	— 3·1	—·0021
56	17·8	44·2		5·4		—·0017	—·0043	— 3·8	— 3·1	—·0021
18 02	17·8	44·5	69·7	5·4	69·4	—·0016	—·0043	— 3·8	— 3·2	—·0020
08	17·9	44·9		5·4		—·0016	—·0043	— 3·7	— 3·2	—·0020
14	18·0	44·9		5·4		—·0016	—·0043	— 3·7	— 3·2	—·0020
20	18·1	44·8		5·4		—·0016	—·0043	— 3·6	— 3·2	—·0020
26	18·2	44·8		6·0		—·0016	—·0040	— 3·4	— 2·8	—·0019
32	18·5	45·0		6·0		—·0016	—·0041	— 3·2	— 2·8	—·0019
38	18·7	45·2		5·0		—·0016	—·0046	— 3·0	— 3·5	—·0020
44	18·6	45·4		4·9		—·0015	—·0046	— 3·1	— 3·5	—·0019
50	18·4	45·7		5·0		—·0015	—·0046	— 3·2	— 3·5	—·0019
56	18·2	45·9		5·0		—·0014	—·0046	— 3·4	— 3·8	—·0018
19 02	18·1	45·9	69·5	5·5	69·1	—·0014	—·0043	— 3·4	— 3·4	—·0018
08	18·1	45·9		5·2		—·0015	—·0045	— 3·3	— 3·5	—·0019
14	17·9	46·0		4·7		—·0015	—·0047	— 3·2	— 3·8	—·0019
20	18·0	46·2		4·7		—·0015	—·0047	— 3·0	— 3·8	—·0019
26	17·8	46·2		4·2		—·0015	—·0050	— 3·0	— 4·1	—·0020
32	17·6	46·4		4·3		—·0015	—·0050	— 2·9	— 4·1	—·0020
38	17·6	46·6		4·3		—·0014	—·0050	— 2·8	— 4·2	—·0019
44	17·1	—		—		—	—	— 3·0	—	—
50	16·8	47·0		5·7		—·0014	—·0043	— 3·1	— 3·4	—·0018
56	16·6	47·4		5·5		—·0014	—·0044	— 3·0	— 3·5	—·0018
20 02	16·3	48·0	69·3	5·5	68·8	—·0013	—·0044	— 3·1	— 3·7	—·0017
08	16·0	—		—		—	—	— 3·2	—	—

1842. St. Helena.

Feb. 24—25.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 2m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
24 20 14	15·6	—		—		—	—	− 3·3	—	—
20	15·0	—		—		—	—	− 3·6	—	—
26	15·2	—		—		—	—	− 3·2	—	—
32	15·0	49·2		5·5		−·0012	−·0044	− 3·2	− 3·8	−·0016
38	14·1	49·9		5·5		−·0011	−·0044	− 3·8	− 3·9	−·0015
44	14·5	50·0		5·5		−·0011	−·0044	− 3·3	− 3·9	−·0015
50	14·5	50·0		5·5		−·0011	−·0044	− 3·1	− 3·9	−·0015
56	14·0	50·0		5·3		−·0012	−·0045	− 3·3	− 3·9	−·0016
21 02	14·1	50·1	69·0	5·3	68·8	−·0012	−·0045	− 3·1	− 3·9	−·0016
08	14·2	50·9		5·3		−·0011	−·0045	− 3·0	− 4·0	−·0016
14	14·1	51·1		5·3		−·0011	−·0045	− 3·1	− 4·0	−·0016
20	14·2	51·3		5·1		−·0010	−·0046	− 3·0	− 4·2	−·0015
26	14·2	51·6		5·1		−·0010	−·0046	− 3·0	− 4·2	−·0015
32	14·1	52·0		5·1		−·0010	−·0046	− 3·2	− 4·2	−·0015
38	14·0	52·1		5·1		−·0010	−·0046	− 3·2	− 4·2	−·0015
44	14·1	52·5		5·1		−·0010	−·0046	− 3·2	− 4·2	−·0015
50	14·1	52·8		4·6		−·0009	−·0049	− 3·2	− 4·7	−·0014
56	14·1	52·9		4·6		−·0009	−·0049	− 3·2	− 4·7	−·0014
22 02	14·6	53·0	69·0	4·6	68·8	−·0010	−·0049	− 2·8	− 4·6	−·0015
08	14·8	53·0		4·4		−·0010	−·0049	− 2·8	− 4·6	−·0015
14	14·8	53·0		4·4		−·0010	−·0049	− 2·9	− 4·6	−·0015
20	14·9	53·0		4·1		−·0010	−·0050	− 3·0	− 4·7	−·0015
26	15·0	53·1		4·2		−·0010	−·0049	− 3·1	− 4·6	−·0015
32	15·8	53·5		4·1		−·0010	−·0049	− 2·7	− 4·6	−·0015
38	16·1	54·0		4·1		−·0009	−·0049	− 2·7	− 4·7	−·0014
44	16·9	55·0		4·2		−·0007	−·0048	− 2·2	− 4·8	−·0012
50	17·2	55·6		4·2		−·0006	−·0047	− 2·2	− 4·8	−·0011
56	17·9	56·0		4·2		−·0006	−·0047	− 1·8	− 4·8	−·0011
23 02	18·5	56·8	69·2	4·3	69·2	−·0004	−·0046	− 1·5	− 4·9	−·0010
08	19·0	57·1		4·3		−·0004	−·0045	− 1·4	− 4·8	−·0009
14	19·7	57·9		4·2		−·0002	−·0045	− 1·1	− 4·9	−·0008
20	20·0	58·0		4·3		−·0002	−·0044	− 1·1	− 4·9	−·0008
26	20·6	58·0		4·1		−·0002	−·0045	− 0·9	− 4·9	−·0008
32	20·9	57·6		4·3		−·0002	−·0043	− 0·9	− 4·8	−·0007
38	20·9	57·7		4·6		−·0002	−·0041	− 1·1	− 4·6	−·0007
44	21·2	58·2		4·7		−·0001	−·0040	− 1·1	− 4·6	−·0006
50	21·9	58·7		4·7		·0000	−·0040	− 0·8	− 4·7	−·0005
56	21·9	58·3		4·7		·0000	−·0039	− 1·1	− 4·6	−·0005
25 00 00	22·0	58·2	70·0	4·7	69·6	−·0001	−·0039	− 1·2	− 4·5	−·0006

1842. Van Diemen Island.

March 14 & 23—24.

VAN DIEMEN ISLAND, 1842. MARCH 14 and 23—24.

MEAN MONTHLY READINGS OF THE MAGNETOMETERS.

Mean Göttingen Time.	Declination.	H. F. at 64°·0.	V. F. at 62°·5.	Mean Göttingen Time.	Declination.	H. F. at 64°·0	V. F. at 62°·5.
Hours.	Sc. Div.	Sc. Div.	Sc. Div.	Hours.	Sc. Div.	Sc. Div.	Sc. Div.
0	71·3	76·2	76·1	12	66·1	68·9	66·5
1	70·3	75·8	74·4	13	67·8	67·8	71·7
2	69·9	75·3	71·6	14	71·9	67·8	75·9
3	70·3	75·3	70·2	15	75·6	69·7	76·5
4	71·0	75·2	70·0	16	78·4	73·3	80·6
5	71·6	74·8	68·6	17	79·5	75·4	81·1
6	72·0	74·4	66·7	18	78·8	77·1	82·9
7	71·8	74·9	63·2	19	77·0	78·0	82·2
8	70·9	74·3	62·4	20	74·9	78·0	83·2
9	71·0	73·6	64·1	21	73·4	76·9	80·1
10	69·2	71·7	63·2	22	71·9	78·0	75·9
11	66·8	70·6	66·4	23	71·3	78·0	76·0

Coefficients (A), Approximate Absolute Values (B.)

(A) Declin. $a = 0'\cdot71$

H. F. $k = \cdot000130$, $q = \cdot000234$

V. F. $k = \cdot00035$, $q = \cdot00021$

(B) Approx. $\psi = -9^\circ\ 52'$, $X = 4\cdot51$, $Y = 12\cdot86$, $\theta = -70^\circ\ 37'$, $\phi = 13\cdot62$

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OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. 30s. before, and the V. F. 5m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
						$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M. S.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
14 08 57 30	78·7	91·8	58 9	95·9	57·5	+·0012	+·0001	+5·5	−1·2	+·0002
09 07 30	76·0	—		—		—	—	+3·8	—	—
12 30	75·3	90·0		84·8		+·0010	−·0003	+3·4	−1·4	−·0002
17 30	74·7	—		—		—	—	+3·0	—	—
22 30	74·0	88·5		84·2		+·0008	−·0004	+2·7	−1·3	−·0003
27 30	73·1	—		—		—	—	+2·1	—	—
32 30	72·0	87·0		84·4		+·0007	−·0004	+1·5	−1·2	−·0003
37 30	71·5	—		—		—	—	+1·2	—	—
42 30	70·5	85·7		85·6		+·0006	−·0003	+0·6	−1·0	−·0002
47 30	70·3	—		—		—	—	+0·6	—	—
52 30	70·5	84·5		87·0		+·0004	−·0003	+0·8	−0·8	−·0002
57 30	70·8	83·9	61·2	87·0	57·2	+·0009	−·0003	+1·1	−1·3	−·0002
23 10 2 30	66·2	81·8	60·0	83·2	58·5	+·0004	−·0009	− 2·1	− 1·4	−·0008
7 30	65·6	—		—		—	—	− 2·4	—	—
12 30	65·9	82·4		80·1		+·0005	−·0010	− 2·0	− 1·6	−·0008
17 30	65·5	—		—		—	—	− 2·2	—	—
22 30	65·8	83·2		78·7		+·0007	−·0010	− 1·8	− 1·8	−·0008
27 30	65·2	—		—		—	—	− 2·1	—	—
32 30	66·3	81·3		79·3		+·0004	−·0010	− 1·2	− 1·5	−·0009
37 30	63·9	—		—		—	—	− 2·7	—	—
42 30	64·0	78·2		81·0		+·0001	−·0009	− 2·5	− 1·1	−·0008
47 30	59·8	—		—		—	—	− 5·4	—	—
52 30	62·7	81·2		77·7		+·0006	−·0011	− 3·2	− 1·8	−·0009
57 30	63·2	—		—		—	—	− 2·7	—	—
11 2 30	62·9	81·8	60·5	77·0	59·0	+·0006	−·0011	− 2·7	− 1·8	−·0009
7 30	64·5	—		—		—	—	− 1·5	—	—
12 30	64·3	80·5		75·1		+·0005	−·0011	− 1·7	− 1·7	−·0009
17 30	63·7	—		—		—	—	− 1·8	—	—
22 30	61·5	77·6		75·4		+·0002	−·0011	− 3·7	− 1·4	−·0010
27 30	60·6	—		—		—	—	− 4·2	—	—
32 30	62·2	77·8		75·5		+·0003	−·0011	− 3·0	− 1·5	−·0010
37 30	62·8	—		—		—	—	− 2·5	—	—
42 30	62·9	79·1		73·6		+·0005	−·0011	− 2·4	− 1·7	−·0009
47 30	64·5	—		—		—	—	− 1·3	—	—
52 30	62·8	78·2		73·2		+·0005	−·0011	− 2·4	− 1·7	−·0009
57 30	62·4	—		—		—	—	− 2·7	—	—
12 2 30	61·9	78·8	61·0	75·2	59·5	+·0006	−·0010	− 2·9	− 1·7	−·0008
7 30	63·7	—		—		—	—	− 1·8	—	—
12 30	65·7	77·7		71·3		+·0004	−·0012	− 0·5	− 1·7	−·0010
17 30	63·0	—		—		—	—	− 2·6	—	—
22 30	62·2	73·6		72·1		·0000	−·0011	− 3·2	− 1·2	−·0010
27 30	61·1	—		—		—	—	− 4·1	—	—
32 30	61·4	70·3		76·9		−·0003	−·0009	− 4·0	− 0·7	−·0008
37 30	63·3	—		—		—	—	− 2·7	—	—
42 30	65·8	74·6		70·8		+·0003	−·0011	− 1·0	− 1·5	−·0010
47 30	65·7	—		—		—	—	− 1·2	—	—
52 30	63·4	72·3		73·6		+·0001	−·0010	− 2·9	− 1·2	−·0009
57 30	65·6	—		—		—	—	− 1·5	—	—
13 2 30	67·2	73·6	62·0	79·1	61·0	+·0003	−·0007	− 0·4	− 1·1	−·0006
7 30	70·1	—		—		—	—	+ 1·4	—	—
12 30	72·3	73·8		78·6		+·0004	−·0007	+ 2·7	− 1·2	−·0006
17 30	73·7	—		—		—	—	+ 3·4	—	—
22 30	74·5	75·9		77·9		+·0007	−·0007	+ 3·8	− 1·5	−·0006
27 30	75·0	—		—		—	—	+ 4·0	—	—
32 30	75·5	76·9		75·1		+·0009	−·0007	+ 4·1	− 1·7	−·0005
37 30	75·9	—		—		—	—	+ 4·1	—	—
42 30	76·0	77·0		73·0		+·0010	−·0008	+ 4·0	− 1·9	−·0006
47 30	76·9	—		—		—	—	+ 4·3	—	—
52 30	76·9	77·1		73·9		+·0010	−·0007	+ 4·1	− 1·8	−·0005
57 30	77·2	—		—		—	—	+ 4·0	—	—
14 2 30	77·1	77·6	63·0	71·8	61·5	+·0012	−·0008	+ 3·7	− 2·2	−·0006
7 30	77·2	—		—		—	—	+ 3·6	—	—

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OBSERVATIONS OF THE MAGNETOMETERS. The Declination was observed 2m. 30s. before, and the V. F. 5m. after the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta \psi$	$\Delta \theta$	$\frac{\Delta \phi}{\phi}$
D. H. M. S.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	″	Parts of Total Force.
23 14 12 30	76·9	77·2		72·4		+·0011	−·0007	+ 3·1	− 1·9	−·0005
17 30	76·9	—		—		—	—	+ 2·9	—	—
22 30	76·9	76·9		71·2		+·0011	−·0008	+ 2·7	− 2·0	−·0006
27 30	77·0	—		—		—	—	+ 2·5	—	—
32 30	77·0	77·3		71·0		+·0012	−·0007	+ 2·3	− 2·0	−·0005
37 30	76·9	—		—		—	—	+ 2·0	—	—
42 30	76·9	76·5		72·5		+·0011	−·0007	+ 1·8	− 1·9	−·0005
47 30	77·3	—		—		—	—	+ 1·8	—	—
52 30	77·3	76·0		72·1		+·0010	−·0006	+ 1·6	− 1·7	−·0004
57 30	77·3	—		—		—	—	+ 1·4	—	—
15 2 30	77·2	75·6	63·5	73·5	61·5	+·0010	−·0006	+ 1·1	− 1·7	−·0004
7 30	77·0	—		—		—	—	+ 0·8	—	—
12 30	78·0	76·3		72·9		+·0011	−·0006	+ 1·3	− 1·8	−·0004
17 30	77·5	—		—		—	—	+ 0·8	—	—
22 30	77·5	76·0		74·0		+·0010	−·0005	+ 0·7	− 1 6	−·0003
27 30	77·8	—		—		—	—	+ 0·7	—	—
32 30	78·3	77·2		73·7		+·0012	−·0005	+ 0·9	− 1·8	−·0003
37 30	78·7	—		—		—	—	+ 1·1	—	—
42 30	79·3	77·7		73·2		+·0012	−·0005	+ 1·3	− 1·8	−·0003
47 30	79·4	—		—		—	—	+ 1·2	—	—
52 30	78·7	76·6		74·4		+·0010	−·0005	+ 0·6	− 1·6	−·0003
57 30	79·1	—		—		—	—	+ 0·6	—	—
16 2 30	79·1	77·8	63·6	74·7	62·0	+·0012	−·0004	+ 0·5	− 1·7	−·0002
7 30	79·9	—		—		—	—	+ 1·0	—	—
12 30	79·5	76·2		76·0		+·0009	−·0004	+ 0·6	− 1·4	−·0003
17 30	79·6	—		—		—	—	+ 0·6	—	—
22 30	80·1	76·1		76·4		+·0009	−·0003	+ 0·9	− 1·3	−·0002
27 30	79·3	—		—		—	—	+ 0·3	—	—
32 30	79:3	75·4		76·0		+·0008	−·0003	+ 0·3	− 1·2	−·0002
37 30	79·3	—		—		—	—	+ 0·2	—	—
42 30	78·9	75·9		74·9		+·0009	−·0004	− 0·1	− 1·4	−·0003
47 30	79·3	—		—		—	—	+ 0·1	—	—
52 30	79·1	76·9		74·5		+·0010	−·0004	− 0·1	− 1·5	−·0003
57 30	78·8	—		—		—	—	− 0·4	—	—
17 2 30	79·0	77·1	64·0	74·3	62·2	+·0010	−·0004	− 0·4	− 1·5	−·0003
7 30	78·9	—		—		—	—	− 0·4	—	—
12 30	78·4	76·5		75·0		+·0006	−·0003	− 0·7	− 1·0	−·0002
17 30	80·0	—		—		—	—	− 0·5	—	—
22 30	79·0	78·2		75·0		+·0011	−·0003	− 0·2	− 1·5	−·0002
27 30	79·4	—		—		—	—	+ 0·1	—	—
32 30	79·8	77·0		76·1		+·0010	−·0003	+ 0·4	− 1·4	−·0002
37 30	79·2	—		—		—	—	+ 0·1	—	—
42 30	78·9	76·8		75·1		+·0009	−·0003	− 0·1	− 1·3	−·0002
47 30	78·9	—		—		—	—	− 0·1	—	—
52 30	78·7	76·7		75·2		+·0009	−·0003	− 0·1	− 1·3	−·0002
57 30	78·6	—		—		—	—	− 0·2	—	—
18 2 30	78·2	76·5	64·0	75·9	62·0	+·0009	−·0002	− 0·4	− 1·2	−·0001
7 30	78·4	—		—		—	—	− 0·1	—	—
12 30	78·3	76·6		76·1		+·0009	−·0002	− 0·1	− 1·2	−·0001
17 30	78·4	—		—		—	—	+ 0·1	—	—
22 30	78·0	77·5		75·6		+·0010	−·0002	− 0·1	− 1·3	−·0001
27 30	77·9	—		—		—	—	− 0·1	—	—
32 30	77·6	76·8		75·6		+·0009	−·0002	− 0·2	− 1·2	−·0001
37 30	77·6	—		—		—	—	− 0·1	—	—
42 30	78·2	78·9		75·9		+·0011	−·0002	+ 0·4	− 1·4	−·0001
47 30	78·4	—		—		—	—	+ 0·7	—	—
52 30	77·9	75·6		77·7		+·0007	−·0002	+ 0·4	− 1·0	−·0001
57 30	77·4	—		—		—	—	+ 0·2	—	—
19 2 30	78·4	78·5	64·4	77·8	62·2	+·0011	−·0002	+ 1·0	− 1·4	−·0001
7 30	78·3	—		—		—	—	+ 1·3	—	—
12 30	78·4	77·5		77·7		+·0009	−·0002	+ 1·2	− 1·2	−·0001
17 30	77·8	—		—		—	—	+ 0·9	—	—
22 30	77·5	76·9		78·6		+·0009	−·0001	+ 0·8	− 1·1	·0000

1842.
Van Diemen Island.

March 23—24.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. 30s. before, and the V. F. 5m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
						$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta \psi$	$\Delta \theta$	$\frac{\Delta \phi}{\phi}$
D. H. M. S.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
23 19 27 30	77·7	—		—		—	—	+ 1·1	—	—
32 30	76·9	74·7		79·6		+·0006	−·0001	+ 0·6	− 0·8	·0000
37 30	77·0	—		—		—	—	+ 0·8	—	—
42 30	76·9	76·3		78·4		+·0008	−·0002	+ 0 8	− 1·1	−·0001
47 30	76·3	—		—		—	—	+ 0·6	—	—
52 30	76·6	74·7		79·6		+·0006	−·0001	+ 0·9	− 0·8	·0000
57 30	77·2	—		—		—	—	+ 1·4	—	—
20 2 30	77·2	74·6	64·5	80·4	62·5	+·0006	−·0001	+ 1·5	− 0·8	·0000
7 30	76·9	—		—		—	—	+ 1·4	—	—
12 30	76·1	75·4		76·8		+·0007	−·0002	+ 1·0	− 1·0	−·0001
17 30	75·1	—		—		—	—	+ 0·4	—	—
22 30	74·8	74·7		75·4		+·0006	−·0003	+ 0·2	− 1·0	−·0002
27 30	74·8	—		—		—	—	+ 0·4	—	—
32 30	75·2	74·6		75·6		+·0006	−·0003	+ 0·7	− 1·0	−·0002
37 30	74·9	—		—		—	—	+ 0·6	—	—
42 30	74·7	76·3		72·7		+·0008	−·0004	+ 0·6	− 1·3	−·0003
47 30	74·9	—		—		—	—	+ 0·8	—	—
52 30	75·1	77·3		68·9		+·0009	−·0006	+ 1·0	− 1·6	−·0004
57 30	74·2	—		—		—	—	+ 0·5	—	—
21 2 30	73·6	76·4	64·8	68·2	64·0	+·0008	−·0006	+ 0·1	− 1 5	−·0005
7 30	73·7	—		—		—	—	+ 0·3	—	—
12 30	73·6	76·8		65·5		+·0008	−·0007	+ 0·4	− 1·6	−·0005
17 30	72·9	—		—		—	—	− 0·1	—	—
22 30	72·9	74·8		67·6		+·0005	−·0006	0·0	− 1·2	−·0005
27 30	73·5	—		—		—	—	+ 0·5	—	—
32 30	72·7	74·2		65·5		+·0003	−·0007	+ 0·1	− 1·1	−·0006
37 30	71·3	—		—		—	—	− 0·8	—	—
42 30	71·3	77·9		63·6		+·0008	−·0008	− 0·8	− 1·7	−·0006
47 30	71·5	—		—		—	—	− 0·6	—	—
52 30	70·2	73·1		61·2		+·0001	−·0008	− 1·3	− 1·0	−·0007
57 30	66·3	—		—		—	—	− 4·1	—	—
22 2 30	62·8	73·6	64·2	61·8	64·0	+·0001	−·0008	− 6·5	− 1·0	−·0007
7 30	62·2	—		—		—	—	− 6·8	—	—
12 30	63·5	78·7		59·0		+·0007	−·0009	− 5·9	− 1·7	−·0007
17 30	65·0	—		—		—	—	− 4·8	—	—
22 30	65·7	81·3		59·4		+·0011	−·0009	− 4·3	− 2·2	−·0007
27 30	67·5	—		—		—	—	− 2·9	—	—
32 30	68·3	74·2		63·6		+·0001	−·0008	− 2·3	− 1·0	−·0007
37 30	66·8	—		—		—	—	− 3·3	—	—
42 30	65·1	74·7		65·2		+·0001	−·0008	− 4·6	− 1·0	−·0007
47 30	64·7	—		—		—	—	− 4·8	—	—
52 30	65·2	76·4		63·1		+·0003	−·0008	− 4·4	− 1·2	−·0007
57 30	64·4	—		—		—	—	− 4·9	—	—
23 2 30	65·2	75·3	64·0	65·9	64·0	+·0002	−·0008	− 4·4	− 1·1	−·0007
7 30	65·5	—		—		—	—	− 4·2	—	—
12 30	66·1	69·8		74·6		−·0008	−·0005	− 3·7	+ 0·3	−·0005
17 30	67·0	—		—		—	—	− 3·0	—	—
22 30	67·0	66·7		79·4		−·0010	−·0003	− 3·0	+ 0·8	−·0004
27 30	65·9	—		—		—	—	− 3·9	—	—
32 30	67·2	70·5		82·1		−·0005	−·0002	− 2·9	+ 0·3	−·0002
37 30	69·6	—		—		—	—	− 1·2	—	—
42 30	70·8	70·5		81·5		−·0006	−·0003	− 0·4	+ 0·3	−·0003
47 30	70·2	—		—		—	—	− 0 8	—	—
52 30	70·5	72·6		80·4		−·0003	−·0003	− 0·6	0·0	−·0003
57 30	71·1	—		—		—	—	− 0·1	—	—
24 00 2 30	70·9	74·8	63·0	80·1	63·0	−·0004	−·0005	− 0·3	− 0·1	−·0005
7 30	71·8	—		—		—	—	+ 0·4	—	—
12 30	72·4	74·2		78·8		−·0005	−·0005	+ 0·9	0·0	−·0005
17 30	71·9	—		—		—	—	+ 0·6	—	—
22 30	71·5	74·4		78·6		−·0005	−·0005	+ 0·4	0·0	−·0005
27 30	71·8	—		—		—	—	+ 0·6	—	—
32 30	71·8	75·0		79·4		−·0004	−·0005	+ 1·3	− 0·1	−·0005

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Van Diemen Island.

March 24.

OBSERVATIONS OF THE MAGNETOMETERS. The Declination was observed 2m. 30s. before, and the V. F. 5m. after the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta \psi$	$\Delta \theta$	$\frac{\Delta \phi}{\phi}$
D. H. M. S.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
24 00 37 30	71·9	—		—		—	—	+ 0·8	—	—
42 30	72·1	75·8		78·9		−·0003	−·0005	+ 1·1	− 0·2	−·0005
47 30	72·0	—		—		—	—	+ 1·0	—	—
52 30	71·8	76·5		77·3		−·0003	−·0005	+ 0·9	− 0 2	−·0005
57 30	71·7	—		—		—	—	+ 0·8	—	—
01 2 30	71·7	77·2	62·5	77·0	63·0	−·0002	−·0005	+ 1·0	− 0·3	−·0005
7 30	71·7	—		—		—	—	+ 1·0	—	—
12 30	71·8	77·8		75·1		−·0001	−·0006	+ 1·1	− 0·6	−·0005
17 30	71·9	—		—		—	—	+ 1·2	—	—
22 30	71·9	77·5		75·3		−·0001	−·0006	+ 1·2	− 0·6	−·0005
27 30	72·0	—		—		—	—	+ 1·3	—	—
32 30	72·0	77·6		75·0		−·0002	−·0005	+ 1·3	− 0·3	−·0005
37 30	72·0	—		—		—	—	+ 1·3	—	—
42 30	71·4	77·2		75·3		−·0002	−·0005	+ 0·9	− 0·3	−·0005
47 30	71·7	—		—		—	—	+ 1·1	—	—
52 30	71·7	77·8		75·5		−·0001	−·0005	+ 1·2	− 0·4	−·0005
57 30	71·9	—		—		—	—	+ 1·3	—	—
02 2 30	71·9	78·3	62·0	75·8	63·0	−·0001	−·0005	+ 1·3	− 0·4	−·0005
7 30	72·0	—		—		—	—	+ 1·4	—	—
12 30	71·3	79·5		74·8		−·0001	−·0005	+ 0·8	− 0·4	−·0005
17 30	71·1	—		—		—	—	+ 0·7	—	—
22 30	71·5	79·7		74·2		−·0001	−·0006	+ 1·0	− 0·6	−·0005
27 30	71·2	—		—		—	—	+ 0·8	—	—
32 30	71·0	78·0		77·0		−·0002	−·0005	+ 0·6	− 0·3	−·0005
37 30	70·9	—		—		—	—	+ 0·5	—	—
42 30	71·4	78·3		77·8		−·0002	−·0005	+ 0·8	− 0·3	−·0005
47 30	71·5	—		—		—	—	+ 0·9	—	—
52 30	71·7	78·5		78·0		−·0002	−·0005	+ 1·0	− 0·3	−·0005
57 30	71·6	—		—		—	—	+ 0·9	—	—
03 2 30	71·7	78·2	61·5	78·3	62·0	−·0002	−·0005	+ 1·0	− 0·3	−·0005
7 30	71·5	—		—		—	—	+ 0·8	—	—
12 30	71·6	77·7		78·7		−·0003	−·0005	+ 0·8	− 0·2	−·0005
17 30	71·7	—		—		—	—	+ 0·8	—	—
22 30	71·5	78·8		78·8		−·0001	−·0006	+ 0·7	− 0·6	−·0005
27 30	71·4	—		—		—	—	+ 0·6	—	—
32 30	71·6	79·0		78·9		·0000	−·0006	+ 0·7	− 0·7	−·0005
37 30	71·5	—		—		—	—	+ 0·6	—	—
42 30	71·5	78·4		79·7		−·0001	−·0006	+ 0·5	− 0·6	−·0005
47 30	71·3	—		—		—	—	+ 0·4	—	—
52 30	71·2	78·2		80·5		−·0001	−·0006	+ 0·2	− 0·6	−·0005
57 30	71·0	—		—		—	—	+ 0·1	—	—
04 2 30	71·5	78·7	62·0	81·5	61·0	·0000	−·0006	+ 0·4	− 0·7	−·0005
7 30	71·3	—		—		—	—	+ 0·1	—	—
12 30	71·0	79·4		78·5		+·0001	−·0007	− 0·1	− 0·9	−·0006
17 30	70·5	—		—		—	—	− 0·5	—	—
22 30	70·2	78·6		78·1		−·0001	−·0007	− 0·7	− 0·7	−·0006
27 30	70·0	—		—		—	—	− 0·9	—	—
32 30	70·2	79·0		79·3		−·0001	−·0007	− 0·8	− 0·7	−·0006
37 30	70·8	—		—		—	—	− 0·4	—	—
42 30	71·3	79·1		79·1		−·0001	−·0007	− 0·1	− 0·7	−·0006
47 30	71·2	—		—		—	—	− 0·2	—	—
52 30	72·3	77·6		80·1		−·0003	−·0006	+ 0·6	− 0·3	−·0006
57 30	71·6	—		—		—	—	0·0	—	—
05 2 30	71·0	78·3	61·0	82·1	61·2	−·0003	−·0005	− 0·4	− 0·2	−·0005
7 30	71·0	—		—		—	—	− 0·4	—	—
12 30	74·1	80·0		82·4		·0000	−·0005	+ 1·7	− 0·6	−·0004
17 30	74·9	—		—		—	—	+ 2·2	—	—
22 30	75·1	79·5		82·6		−·0001	−·0005	+ 2·4	− 0·4	−·0005
27 30	74·9	—		—		—	—	+ 2·2	—	—
32 30	74·8	81·1		80·9		+·0001	−·0006	+ 2·1	− 0·8	−·0005
37 30	75·5	—		—		—	—	+ 2·6	—	—
42 30	75·5	81·8		80·1		+·0002	−·0006	+ 2·5	− 0·9	−·0005
47 30	75·1	—		—		—	—	+ 2·2	—	—
52 30	74·8	81·5		79·1		+·0001	−·0006	+ 2·0	− 0·8	−·0005
57 30	74·6	—		—		—	—	+ 1·8	—	—

1842.
Van Diemen Island.

March 24.

OBSERVATIONS OF THE MAGNETOMETERS. The Declination was observed 2m. 30s. before, and the V. F. 5m. after the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M. S.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
24 06 2 30	73·8	81·3	60·4	78·5	61·0	+·0001	−·0006	+ 1·3	− 0·8	−·0005
7 30	73·5	—		—		—	—	+ 1·1	—	—
12 30	72·9	80·7		77·1		−·0001	−·0006	+ 0·6	− 0·6	−·0005
17 30	72·1	—		—		—	—	+ 0·1	—	—
22 30	71·2	80·4		76·4		−·0001	−·0006	− 0·5	− 0·6	−·0005
27 30	71·0	—		—		—	—	− 0·6	—	—
32 30	71·4	81·1		75·9		·0000	−·0006	− 0·4	− 0·7	−·0005
37 30	71·3	—		—		—	—	− 0·4	—	—
42 30	71·4	80·4		76·1		−·0002	−·0006	− 0·4	− 0·4	−·0006
47 30	71·6	—		—		—	—	− 0·2	—	—
52 30	72·4	81·4		75·4		−·0001	−·0006	+ 0·4	− 0·6	−·0005
57 30	72·1	—		—		—	—	+ 0·2	—	—
07 2 30	71·7	81·8	60·0	73·5	61·4	·0000	−·0006	− 0·1	− 0·7	−·0005
7 30	71·4	—		—		—	—	− 0·2	—	—
12 30	71·4	80·9		73·9		−·0001	−·0006	− 0·1	− 0·6	−·0005
17 30	71·7	—		—		—	—	+ 0·1	—	—
22 30	71·7	81·0		74·6		−·0001	−·0005	+ 0·1	− 0·4	−·0005
27 30	72·1	—		—		—	—	+ 0·5	—	—
32 30	71·9	81·3		73·3		−·0001	−·0006	+ 0·4	− 0·6	−·0005
37 30	71·1	—		—		—	—	− 0·1	—	—
42 30	70·3	82·2		71·1		+·0001	−·0006	− 0·6	− 0·8	−·0005
47 30	69·8	—		—		—	—	− 0·9	—	—
52 30	69·2	82·4		69·3		−·0001	−·0007	− 1·3	− 0·7	−·0006
57 30	68·9	—		—		—	—	− 1·5	—	—
08 2 30	68·0	82·9	60·0	68·2	61·5	+·0002	−·0007	− 2·0	− 1·0	−·0006
7 30	67·7	—		—		—	—	− 2·2	—	—
12 30	67·6	82·6		68·6		+·0002	−·0007	− 2·3	− 1·0	−·0006
17 30	66·9	—		—		—	—	− 2·8	—	—
22 30	66·5	80·9		68·6		−·0001	−·0007	− 3·1	− 0·7	−·0006
27 30	66·5	—		—		—	—	− 3·1	—	—
32 30	66·6	77·4		75·6		−·0005	−·0005	− 3·0	0·0	−·0005
37 30	67·1	—		—		—	—	− 2·7	—	—
42 30	68·0	76·2		79·5		−·0006	−·0004	− 2·1	+ 0·2	−·0004
47 30	68·8	—		—		—	—	− 1·5	—	—
52 30	69·5	75·7		81·8		−·0007	−·0003	− 1·1	+ 0·4	−·0003
57 30	70·0	—		—		—	—	− 0·7	—	—
09 2 30	70·4	75·6	60·0	83·3	61·5	−·0007	−·0002	− 0·4	+ 0·6	−·0003
7 30	70·6	—		—		—	—	− 0·1	—	—
12 30	70·1	76·0		82·9		−·0006	−·0002	− 0·4	+ 0·4	−·0002
17 30	70·4	—		—		—	—	− 0·1	—	—
22 30	70·2	77·3		81·0		−·0004	−·0002	− 0·1	+ 0·2	−·0002
27 30	70·0	—		—		—	—	− 0·1	—	—
32 30	70·1	78·8		75·3		−·0001	−·0005	0·0	− 0·4	−·0005
37 30	70·0	—		—		—	—	+ 0·1	—	—
42 30	70·1	79·1		73·8		−·0001	−·0005	+ 0·2	− 0·4	−·0005
47 30	70·0	—		—		—	—	+ 0·3	—	—
52 30	69·6	78·3		71·7		−·0001	−·0006	+ 0·1	− 0·6	−·0005
57 30	69·3	—		—		—	—	0·0	—	—

1842.
Toronto.

March 23—24.

TORONTO, 1842. MARCH 23—24.

MEAN MONTHLY READINGS OF THE MAGNETOMETERS.

Mean Göttingen Time.	Declination.	H. F. at 48°·1.	V. F. at 47°·8.	Mean Göttingen Time.	Declination.	H. F. at 48°·1.	V. F. at 47°·8.
Hours.	Sc. Div.	Sc. Div.	Sc. Div.	Hours.	Sc. Div.	Sc. Div.	Sc. Div.
0	134·2	464·8	96·7	12	130·3	470·0	98·8
1	—	—	—	13	—	—	—
2	137·9	461·0	97·2	14	133·4	466·6	98·6
3	—	—	—	15	—	—	—
4	136·2	452·8	95·8	16	134·7	463·4	97·5
5	—	—	—	17	—	—	—
6	127·8	454·5	96·0	18	134·8	460·8	96·6
7	—	—	—	19	—	—	—
8	125·4	466·0	97·1	20	133·9	463·0	96·5
9	—	—	—	21	—	—	—
10	127·3	472·9	98·4	22	134·4	464·4	96·3
11	—	—	—	23	—	—	—

Coefficients (A), Approximate Absolute Values (B.)

(A) Declin. $a = 0'\cdot721$

H. F. $k = \cdot000074$, $q = \cdot00026$

V. F. $k = \cdot000093$, $q = \cdot00011$

(B) Approx. $\psi = 1°\,19'$, $X = 3\cdot54$, $Y = 13\cdot44$, $\theta = 75°\,16'$, $\phi = 13\cdot90$

OBSERVATIONS OF THE MAGNETOMETERS.

The H. F. was observed 2m. and the V. F. 4m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
						$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
23 10 00	122·2	453·7	52·2	94·8	50·5	−·0003	·0000	− 3·7	+ 0·2	·0000
06	121·0	459·8		96·0		+·0002	+·0001	− 4·7	− 0·1	+·0001
12	120·7	458·5		94·7		+·0001	·0000	− 4·9	− 0·1	·0000
18	121·1	449·6		94·2		−·0006	−·0001	− 4·8	+ 0·4	−·0001
24	122·7	450·0		93·8		−·0005	−·0001	− 3·7	+ 0·3	−·0001
30	124·7	452·7		95·3		−·0003	·0000	− 2·5	+ 0·2	·0000
36	125·9	463·3		95·3		+·0005	·0000	− 1·6	− 0·4	·0000
42	126·4	467·8		96·0		+·0008	+·0001	− 1·4	− 0·6	+·0001
48	126·7	463·3		95·0		+·0005	·0000	− 1·3	− 0·4	·0000
54	126·5	457·6		95·0		+·0001	·0000	− 1·5	− 0·1	·0000
11 00	126·1	456·3	52·4	94·6	51·0	·0000	·0000	− 1·9	0·0	·0000
06	126·4	452·8		94·4		−·0002	·0000	− 1·8	+ 0·2	·0000
12	127·1	453·4		94·5		−·0002	·0000	− 1·4	+ 0·2	·0000
18	128·8	465·8		96·2		+·0007	+·0001	− 0·4	− 0·5	+·0001
24	129·1	474·1		97·5		+·0014	+·0003	+ 0·2	− 0·9	+·0004
30	129·0	465·3		96·9		+·0007	+·0002	− 0·4	− 0·4	+·0002
36	128·9	460·9		96·9		+·0004	+·0002	− 0·6	− 0·2	+·0002
42	128·0	452·8		96·7		−·0002	+·0002	− 1·3	+ 0·3	+·0002
48	128·2	448·5		97·0		−·0006	+·0002	− 1·3	+ 0·7	+·0002
54	129·7	453·5		97·0		−·0002	+·0002	− 0·4	+ 0·3	+·0002
12 00	130·1	451·3	51·9	97·8	51·1	−·0004	+·0003	− 0·1	+ 0·6	+·0003
06	130·2	447·6		98·3		−·0005	+·0003	− 0·2	+ 0·7	+·0003
12	130·0	453·6		99·4		−·0001	+·0004	− 0·4	+ 0·4	+·0004
18	130·9	451·8		99·1		−·0002	+·0004	+ 0·1	+ 0·5	+·0004
24	132·1	452·5		100·4		−·0001	+·0005	+ 0·8	+ 0·5	+·0005
30	135·9	447·7		102·4		+·0004	+·0007	+ 3·5	+ 0·9	+·0006
36	137·8	449·7		107·3		−·0003	+·0011	+ 4·7	+ 1·2	+·0010
42	143·2	446·5		106·3		−·0005	+·0010	+ 8·5	+ 1·3	+·0009
48	150·1	432·5		105·8		−·0015	+·0010	+13·4	+ 2·1	+·0008
54	162·6	425·8		109·1		−·0020	+·0013	+22·2	+ 2·8	+·0011
13 00	177·4	450·6	52·2	103·3	51·5	−·0002	+·0008	+32·8	+ 0·9	+·0007
06	173·5	464·6		99·3		+·0008	+·0005	+29·8	− 0·2	+·0005
12	160·2	457·0		96·9		+·0003	+·0003	+20·2	0·0	+·0003
18	150·0	444·8		96·7		−·0006	+·0002	+12·6	+ 0·7	+·0002
24	147·6	434·0		97·2		−·0014	+·0003	+10·9	+ 1·4	+·0002
30	144·2	429·3		98·8		−·0017	+·0005	+ 8·3	+ 1·9	+·0004
36	146·3	432·8		97·6		−·0015	+·0004	+ 9·8	+ 1·6	+·0003
42	140·2	434·4		97·5		−·0014	+·0003	+ 5·9	+ 1·4	+·0002
48	136·1	431·9		98·6		−·0015	+·0005	+ 2·9	+ 1·7	+·0004
54	135·9	432·5		99·4		−·0015	+·0005	+ 1·8	+ 1·7	+·0004

1842.
Toronto.

March 23.

OBSERVATIONS OF THE MAGNETOMETERS.

The H. F. was observed 2m. and the V. F. 4m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta \psi$	$\Delta \theta$	$\frac{\Delta \phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
23 14 00	136·3	441·9	52·0	98·0	52·0	−·0008	+·0004	+ 2·0	+ 1·0	+·0003
06	133·0	445·3		97·8		−·0005	+·0004	− 0·4	+ 0·8	+·0003
12	130·7	440·6		97·9		−·0009	+·0004	− 2·0	+ 1·1	+·0003
18	132·0	443·7		98·1		−·0006	+·0004	− 1·1	+ 0·9	+·0003
24	132·1	449·7		97·1		−·0002	+·0003	− 1·1	+ 0·4	+·0003
30	131·9	451·1		96·4		−·0001	+·0003	− 1·3	+ 0·3	+·0003
36	130·8	450·1		96·1		−·0002	+·0003	− 2·2	+ 0·4	+·0003
42	131·0	451·0		95·9		−·0001	+·0002	− 2·0	+ 0·2	+·0002
48	131·0	450·3		95·6		−·0002	+·0002	− 2·2	+ 0·3	+·0002
54	130·1	448·5		95·4		−·0003	+·0002	− 2·9	+ 0·4	+·0002
15 00	130·0	449·4	51·5	95·4	51·8	−·0002	+·0002	− 3·0	+ 0·3	+·0002
06	130·4	451·9		95·3		·0000	+·0002	− 2·8	+ 0·2	+·0002
12	130·2	451·6		95·3		−·0001	+·0002	− 2·9	+ 0·2	+·0002
18	129·8	450·5		95·3		−·0001	+·0002	− 3·3	+ 0·2	+·0002
24	130·0	448·6		94·9		−·0003	+·0002	− 3·1	+ 0·4	+·0002
30	130·6	447·3		94·7		−·0004	+·0001	− 2·8	+ 0·4	+·0001
36	131·1	445·5		94·5		−·0005	+·0001	− 2·5	+ 0·5	+·0001
42	131·8	448·3		94·7		−·0003	+·0001	− 1·9	+ 0·3	+·0001
48	131·4	448·3		94·8		−·0003	+·0001	− 2·3	+ 0·3	+·0001
54	132·5	445·9		94·5		−·0005	+·0001	− 1·5	+ 0·5	+·0001
16 00	133·8	447·7	51·2	93·8	51·3	−·0003	+·0001	− 0·6	+ 0·3	+·0001
06	135·9	449·6		92·8		−·0002	·0000	+ 0·8	+ 0·2	·0000
12	136·0	446·9		92·7		−·0004	−·0001	+ 0·9	+ 0·2	−·0001
18	135·2	445·6		92·7		−·0004	·0000	− 0·4	+ 0·3	·0000
24	136·0	445·9		93·0		−·0004	·0000	− 0·9	+ 0·3	·0000
30	134·4	444·0		93·7		−·0005	+·0001	− 0·3	+ 0·5	+·0001
36	134·4	444·2		94·0		−·0005	+·0001	− 0·3	+ 0·5	+·0001
42	136·0	446·2		94·0		−·0004	+·0001	+ 0·8	+ 0·4	+·0001
48	136·3	448·8		94·0		−·0002	+·0001	+ 1·1	+ 0·2	+·0001
54	138·0	448·0		93·9		−·0002	+·0001	+ 2·3	+ 0·2	+·0001
17 00	139·8	444·5	51·3	93·9	51·2	−·0004	+·0001	+ 3·6	+ 0·4	+·0001
06	142·9	440·9		93·8		−·0007	+·0001	+ 5·9	+ 0·7	+·0001
12	144·8	439·9		93·6		−·0007	+·0001	+ 7·2	+ 0·7	+·0001
18	144·2	442·4		94·4		−·0006	+·0002	+ 6·8	+ 0·7	+·0002
24	140·4	442·7		94·3		−·0005	+·0002	+ 4·0	+ 0·6	+·0002
30	139·7	445·8		94·3		−·0003	+·0002	+ 3·5	+ 0·4	+·0002
36	138·0	450·6		94·5		+·0001	+·0002	+ 2·3	+ 0·1	+·0002
42	136·0	453·0		94·6		+·0003	+·0002	+ 0·8	− 0·1	+·0002
48	135·7	455·9		94·6		+·0005	+·0002	+ 0·6	− 0·2	+·0002
54	136·7	458·1		93·7		+·0007	+·0001	+ 1·3	− 0·5	+·0001
18 00	136·5	460·0	51·5	93·6	51·3	+·0009	+·0001	+ 1·2	− 0·7	+·0001
06	136·1	458·8		93·1		+·0008	+·0001	+ 0·9	− 0·6	+·0001
12	136·1	458·0		92·9		+·0007	+·0001	+ 1·0	− 0·5	+·0001
18	136·6	456·2		92·9		+·0006	+·0001	+ 1·3	− 0·4	+·0001
24	136·4	456·0		92·8		+·0005	·0000	+ 1·3	− 0·4	·0000
30	135·8	453·6		92·8		+·0004	+·0001	+ 0·8	− 0·2	+·0001
36	136·0	452·0		92·8		+·0002	+·0001	+ 1·0	− 0·1	+·0001
42	137·0	452·6		92·1		+·0003	·0000	+ 1·8	− 0·2	·0000
48	136·4	449·3		92·3		·0000	·0000	+ 1·3	0·0	·0000
54	136·0	448·0		92·3		−·0001	·0000	+ 1·1	+ 0·1	·0000
19 00	136·0	446·6		92·1		−·0002	·0000	+ 1·1	+ 0·2	·0000
06	135·0	444·8	51·5	92·1	51·4	−·0004	·0000	+ 0·4	+ 0·3	·0000
12	135·0	447·0		92·1		−·0002	·0000	+ 0·4	+ 0·2	·0000
18	133·7	449·2		92·1		−·0001	·0000	− 0·6	+ 0·1	·0000
24	131·7	451·9		92·4		+·0001	·0000	− 2·0	− 0·1	·0000
30	131·1	451·2		92·2		·0000	·0000	− 2·6	0·0	·0000
36	132·3	456·2		91·3		+·0004	−·0001	− 1·7	− 0·4	−·0001
42	131·8	450·9		91·3		·0000	−·0001	− 2·2	− 0·1	−·0001
48	130·1	450·6		91·3		−·0001	−·0001	− 3·4	0·0	−·0001
54	129·5	453·3		91·3		+·0001	−·0001	− 3·9	− 0·2	−·0001
20 00	128·1	455·1	51·0	91·3	51·2	+·0002	−·0001	− 4·2	− 0·2	−·0001
06	127·5	448·0		90·1		−·0004	−·0002	− 4·6	+ 0·2	−·0002

1842.
Toronto.

March 23—24.

OBSERVATIONS OF THE MAGNETOMETERS. The H. F. was observed 2m. and the V. F. 4m. after the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta \psi$	$\Delta \theta$	$\frac{\Delta \phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
23 20 12	128·2	453·2		90·6		·0000	−·0002	− 4·2	− 0·2	−·0002
18	129·3	454·3		90·2		+·0001	−·0002	− 3·4	− 0·2	−·0002
24	130·2	452·9		91·0		·0000	−·0002	− 2·8	− 0·2	−·0002
30	131·7	452·8		91·0		−·0001	−·0002	− 1·7	− 0·1	−·0002
36	132·1	455·5		91·0		+·0001	−·0002	− 1·4	− 0·2	−·0002
42	130·0	455·8		91·7		+·0001	−·0001	− 3·0	− 0·2	−·0001
48	131·0	456·8		91·7		+·0002	−·0001	− 2·3	− 0·2	−·0001
54	131·9	455·2		91·7		·0000	−·0001	− 1·6	− 0·1	−·0001
21 00	132·8	455·7	50·5	92·3	50·5	+·0001	−·0001	− 1·0	− 0·2	−·0001
06	133·7	456·3		91·6		+·0001	−·0001	− 0·4	− 0·2	−·0001
12	134·4	452·4		89·8		−·0002	−·0003	+ 0·1	− 0·1	−·0003
18	134·5	452·3		91·6		−·0002	−·0001	+ 0·1	+ 0·1	−·0001
24	132·7	452·8		92·4		−·0002	−·0001	− 1·1	+ 0·1	−·0001
30	128·5	453·3		92·3		−·0002	−·0001	− 4·2	+ 0·1	−·0001
36	126·8	450·4		90·6		−·0004	−·0002	− 5·4	+ 0·2	−·0002
42	124·2	441·7		88·9		−·0010	−·0004	− 7·3	+ 0·5	−·0004
48	125·9	440·3		86·9		−·0011	−·0005	− 6·2	+ 0·5	−·0005
54	127·2	435·0		84·6		−·0015	−·0002	− 5·1	+ 1·1	−·0003
22 00	129·2	434·4	50·5	83·7	51·0	−·0016	−·0008	− 3·7	+ 0·7	−·0008
06	128·1	430·5		83·8		−·0019	−·0008	− 4·5	+ 0·9	−·0009
12	125·2	427·0		83·2		−·0021	−·0009	− 6·6	+ 1·0	−·0010
18	122·9	422·4		82·2		−·0025	−·0010	− 8·3	+ 1·3	−·0011
24	123·7	432·8		82·1		−·0017	−·0010	− 7·7	+ 0·6	−·0010
30	127·4	438·8		84·0		−·0013	−·0008	− 4·9	+ 0·4	−·0008
36	130·4	446·9		85·5		−·0007	−·0007	− 2·8	0·0	−·0007
42	130·6	445·7		84·8		−·0008	−·0007	− 2·7	+ 0·1	−·0007
48	130·0	443·7		84·7		−·0009	−·0007	− 3·1	+ 0·2	−·0007
54	128·2	440·8		84·1		−·0011	−·0008	− 4·4	+ 0·2	−·0008
23 00	127·4	438·9	50·4	83·6	51·0	−·0013	−·0009	− 4·9	+ 0·3	−·0009
06	127·2	453·9		86·5		−·0002	−·0006	− 5·1	− 0·3	−·0006
12	127·2	458·6		86·5		+·0002	−·0006	− 5·1	− 0·7	−·0006
18	126·2	463·0		87·8		+·0005	−·0005	− 5·9	− 0·9	−·0004
24	125·2	467·0		87·8		+·0008	−·0005	− 6·5	− 1·1	−·0004
30	125·5	468·5		89·0		+·0009	−·0004	− 6·3	− 1·1	−·0003
36	126·0	468·0		88·9		+·0009	−·0004	− 5·9	− 1·1	−·0003
42	128·0	468·0		89·1		+·0008	−·0004	− 4·4	− 1·0	−·0003
48	128·6	468·0		89·5		+·0008	−·0003	− 4·0	− 0·9	−·0002
54	130·0	467·3		89·5		+·0008	−·0003	− 3·0	− 0·9	−·0002
24 00 00	132·0	465·4	50·3	90·6	51·0	+·0006	−·0002	− 1·5	− 0·7	−·0002
06	135·1	469·4		91·0		+·0010	−·0002	+ 0·5	− 1·0	−·0001
12	135·1	468·5		91·3		+·0009	−·0002	+ 0·4	− 0·9	−·0001
18	136·0	468·4		92·1		+·0009	−·0001	+ 0·8	− 0·9	·0000
24	138·2	469·0		92·4		+·0010	−·0001	+ 2·3	− 0 9	·0000
30	139·7	469·6		92·8		+·0011	·0000	+ 3·3	− 0·9	+·0001
36	140·7	468·2		92·9		+·0010	·0000	+ 3·9	− 0·9	+·0001
42	141·0	468·9		93·0		+·0011	·0000	+ 4·0	− 0·9	+·0001
48	140·0	466·6		93·2		+·0009	·0000	+ 3·1	− 0·8	+·0001
54	140·8	466·8		93·4		+·0010	·0000	+ 3·5	− 0·9	+·0001
01 00	140·8	466·7	50·7	93·6	50·7	+·0010	·0000	+ 3·4	− 0·9	+·0001
06	140·5	465·8		93·4		+·0010	·0000	+ 3·0	− 0·9	+·0001
12	140·7	466·3		93·1		+·0010	·0000	+ 3·0	− 0·9	+·0001
18	140·3	465·2		93·0		+·0010	·0000	+ 2·7	− 0·9	+·0001
24	140·2	464·3		92·8		+·0010	−·0001	+ 2·5	− 0·9	·0000
30	140·6	464·3		92·8		+·0010	−·0001	+ 2·6	− 0·9	·0000
36	140·0	463·1		92·6		+·0010	−·0001	+ 2·0	− 0·9	·0000
42	139·3	459·1		92·4		+·0007	−·0001	+ 1·3	− 0·7	−·0001
48	141·4	460·2		92·5		+·0008	−·0001	+ 2·8	− 0·8	·0000
54	141·0	460·2		92·7		+·0009	−·0001	+ 2·4	− 0·9	·0000
02 00	140·9	457·3	51·7	92·4	51·2	+·0007	−·0001	+ 2·2	− 0 7	−·0001
06	140·3	456·6		92·2		+·0007	−·0001	+ 1·8	− 0·7	−·0001
12	140·4	454·2		92·2		+·0005	−·0001	+ 1·9	− 0·5	−·0001
18	140·7	454·4		92·2		+·0006	−·0001	+ 2·2	− 0·6	−·0001

1842.
Toronto.
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March 24.

OBSERVATIONS OF THE MAGNETOMETERS. The H. F. was observed 2m. and the V. F. 4m. after the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
24 02 24	140·2	453·3		92·0		+·0005	−·0001	+ 1·8	− 0·5	−·0001
30	139·9	453·5		92·0		+·0006	−·0001	+ 1·7	− 0·6	−·0001
36	139·3	453·0		91·7		+·0005	−·0001	+ 1·3	− 0·5	−·0001
42	139·1	451·5		91·8		+·0005	−·0001	+ 1·3	− 0·5	−·0001
48	138·8	452·6		91·8		+·0006	−·0001	+ 1·1	− 0·6	−·0001
54	138·7	451·5		91·8		+·0005	−·0001	+ 1·1	− 0·5	−·0001
03 00	138·2	450·4	51·5	91·7	51·2	+·0004	−·0001	+ 0·8	− 0·4	−·0001
06	137·7	450·3		91·7		+·0005	−·0001	+ 0·5	− 0·5	−·0001
12	137·5	450·5		91·7		+·0005	−·0001	+ 0·4	− 0·5	−·0001
18	137·1	448·4		91·7		+·0004	−·0001	+ 0·2	− 0·4	−·0001
24	136·3	448·2		91·7		+·0004	·0000	− 0·3	− 0·3	·0000
30	136·1	446·5		91·5		+·0003	−·0001	− 0·4	− 0·3	−·0001
36	136·0	447·4		91·7		+·0004	·0000	− 0·4	− 0·3	·0000
42	135·0	448·9		92·0		+·0006	·0000	− 1·1	− 0·5	·0000
48	133·9	446·9		91·8		+·0004	·0000	− 1·8	− 0·3	·0000
54	133·9	443·4		91·8		+·0002	·0000	− 1·7	− 0·2	·0000
04 00	135·2	446·6	51·6	92·1	51·2	+·0005	·0000	− 0·7	− 0·4	·0000
06	132·8	443·7		91·6		+·0003	·0000	− 2·2	− 0·2	·0000
12	133·5	440·7		91·7		+·0001	·0000	− 1·3	− 0·1	·0000
18	132·6	440·9		91·6		+·0001	·0000	− 1·6	− 0·1	·0000
24	131·7	440·2		91·8		+ 0001	·0000	− 2·0	− 0·1	·0000
30	130·8	441·7		91·9		+·0002	·0000	− 2·4	− 0·2	·0000
36	131·0	438·4		91·8		−·0001	·0000	− 1·9	+ 0·1	·0000
42	131·2	436·5		91·8		−·0002	·0000	− 1·5	+ 0·2	·0000
48	129·8	440·9		92·0		+·0002	·0000	− 2·2	− 0·2	·0000
54	127·8	437·9		91·9		−·0001	·0000	− 3·3	+ 0·1	·0000
05 00	128·6	435·5	52·2	91·9	51·5	−·0002	·0000	− 2·5	+ 0·2	·0000
06	127·9	436·2		92·5		−·0002	+·0001	− 2·7	+ 0·2	+·0001
12	126·1	433·4		92·3		−·0004	+·0001	− 3·7	+ 0·4	+·0001
18	125·5	434·7		92·7		−·0003	+·0001	− 3·6	+ 0·3	+·0001
24	124·6	437·2		92·9		−·0001	+·0002	− 4·1	+ 0·2	+·0002
30	125·0	439·2		92·9		+·0001	+·0002	− 3·5	+ 0·1	+·0002
36	125·0	435·5		92·7		−·0002	+·0001	− 3·3	+ 0·2	+·0001
42	125·2	437·3		92·7		−·0001	+·0001	− 2·8	+ 0·2	+·0001
48	125·0	436·3		92·8		−·0002	+·0002	− 2·6	+ 0·3	+·0002
54	124·8	436·0		92·4		−·0002	+·0001	− 2·5	+ 0·2	+·0001
06 00	125·1	434·2	52·5	92·7	51·9	−·0003	+·0002	− 1·9	+ 0·4	+·0002
06	126·0	435·6		92·7		−·0002	+·0002	− 1·2	+ 0·3	+·0002
12	125·5	437·5		92·9		−·0002	+·0002	− 1·5	+ 0·3	+·0002
18	124·5	440·0		92·9		·0000	+·0002	− 2·0	+ 0·2	+·0002
24	122·7	440·1		92·9		·0000	+·0002	− 3·3	+ 0·2	+·0002
30	122·7	438·9		92·9		−·0002	+·0002	− 3·3	+ 0·3	+·0002
36	123·1	441·1		92·6		·0000	+·0001	− 2·9	+ 0·1	+·0001
42	122·5	439·5		92·4		−·0002	+·0001	− 3·3	+ 0·2	+·0001
48	122·1	437·9		92·0		−·0003	+·0001	− 3 4	+ 0·3	+·0001
54	122·1	437·3		92·0		−·0004	+·0001	− 3·3	+ 0·4	+·0001
07 00	122·5	439·6	52·7	92·0	52·4	−·0003	+·0001	− 3·0	+ 0·3	+·0001
06	123·0	441·4		92·7		−·0002	+·0001	− 2·6	+ 0·2	+·0001
12	123·0	441·0		92·3		−·0003	+·0001	− 2·5	+ 0·3	+·0001
18	122·9	442·2		92·2		−·0002	+·0001	− 2·4	+ 0·2	+·0001
24	122·8	444·6		92·2		−·0001	+·0001	− 2·4	+ 0·2	+·0001
30	123·6	447·9		92·8		−·0001	+·0001	− 1·7	+ 0·2	+·0001
36	123·9	449·4		92·8		+·0002	+·0001	− 1·4	− 0·1	+·0001
42	124·0	451·5		92·8		+·0003	+·0001	− 1·3	− 0·2	+·0001
48	124·2	451·4		93·3		+·0002	+·0002	− 1·0	0·0	+·0002
54	125·0	450·7		93·3		+·0001	+·0001	− 0·4	0·0	+·0001
08 00	125·6	451·5	52·6	93·9	52·2	+·0001	+·0002	+ 0·1	+ 0·1	+·0002
06	125·7	449·3		93·7		−·0001	+·0002	+ 0·1	+ 0·2	+·0002
12	125·9	451·4		95·1		+·0001	+·0003	+ 0·2	+ 0·2	+·0003
18	124·3	448·1		94·5		−·0002	+·0002	− 1·0	+ 0·3	+·0002
24	123·0	444·9		93·9		−·0005	+·0002	− 2·0	+ 0·6	+·0002
30	124·0	439·5		94·0		−·0009	+·0002	− 1·3	+ 0·9	+·0001

1842. Toronto.

March 24.

OBSERVATIONS OF THE MAGNETOMETERS.

The H. F. was observed 2m. and the V. F. 4m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta \psi$	$\Delta \theta$	$\frac{\Delta \phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
24 08 36	123·1	441·2		94·3		−·0008	+·0002	− 2·0	+ 0·9	+·0001
42	124·9	432·2		94·5		−·0015	+·0002	− 0·8	+ 1·4	+·0001
48	128·6	439·5		94·5		−·0010	+·0002	+ 1·7	+ 1·0	+·0001
54	131·6	443·1		94·5		−·0007	+·0002	+ 3·8	+ 0·8	+·0001
09 00	132·7	448·0	52·5	95·6	52·2	−·0004	+·0003	+ 4·5	+ 0·6	+·0003
06	133·5	451·3		95·6		−·0002	+·0003	+ 5·0	+ 0·4	+·0003
12	133·9	460·3		95·5		+·0004	+·0003	+ 5·2	− 0·1	+·0003
18	134·1	472·6		96·7		+·0013	+·0004	+ 5·3	− 0·8	+·0005
24	133·1	470·8		96·3		+·0011	+·0003	+ 4·5	− 0·7	+·0003
30	131·4	463·6		95·8		+·0005	+·0003	+ 3·3	− 0·2	+·0003
36	130·5	458·1		95·5		+·0001	+·0002	+ 2·6	+ 0·1	+·0002
42	130·3	457·0		95·3		·0000	+·0002	+ 2·4	+ 0·2	+·0002
48	130·2	457·0		95·0		−·0001	+·0002	+ 2·3	+ 0·2	+·0002
54	129·0	455·6		94·7		−·0002	+·0001	+ 1·3	+ 0·2	+·0001

1842. Van Diemen Island.

March 29.

For Mean Monthly Readings, *see* page 14.

VAN DIEMEN ISLAND, 1842. MARCH 29.

29 07 00	79·1	91·2	61·3	77·3	60·5	+·0015	+·0001	+ 5·2	− 1·5	+·0002
10	74·0	—		—		—	—	+ 1·7	—	—
15	72·8	92·0		56·0		+·0016	−·0006	+ 0·8	− 2·4	−·0004
20	70·8	—		—		—	—	− 0·5	—	—
25	70·3	88·7		52·5		+·0012	−·0007	− 0·8	− 1·9	−·0005
30	69·6	—		—		—	—	− 1·2	—	—
35	70·0	86·7		54·7		+·0009	−·0006	− 0·9	− 1·6	−·0004
40	70·1	—		—		—	—	− 0·8	—	—
45	70·3	84·5		56·2		+·0006	−·0006	− 0·6	− 1·3	−·0005
50	70·0	—		—		—	—	− 0·7	—	—
55	69·6	84·0		63·1		+·0006	−·0003	− 1·0	− 1·0	−·0002
08 00	69·8	81·9	61·0	63·1	61·0	+·0003	−·0003	− 0·8	− 0·7	−·0002

1842. Cape of Good Hope.

April 11—12.

CAPE OF GOOD HOPE, 1842. APRIL 11—12.

MEAN MONTHLY READINGS OF THE MAGNETOMETERS.

Mean Göttingen Time.	Declination.	H. F. at 67°·6.	V. F. at 67°·0.	Mean Göttingen Time.	Declination.	H. F. at 67°·6.	H. F. at 67°·0.
Hours.	Sc. Div.	Sc. Div.	Sc. Div.	Hours.	Sc. Div.	Sc. Div.	Sc. Div.
0	44·6	81·0	49·8	12	43·3	81·5	57·0
1	45·2	80·8	53·0	13	43·8	82·0	56·3
2	44·5	81·1	55·9	14	43·9	82·6	56·6
3	43·8	81·1	57·5	15	44·2	83·0	56·4
4	43·1	81·0	58·8	16	44·3	82·5	56·9
5	43·0	80·5	59·2	17	44·7	82·7	56·3
6	42·8	80·0	59·1	18	44·5	83·1	56·7
7	43·1	79·5	58·8	19	43·7	83·8	58·3
8	43·1	79·8	58·3	20	41·8	84·3	60·6
9	43·1	79·5	58·9	21	40·0	83·9	59·5
10	42·9	79·6	58·9	22	40·4	83·0	55·4
11	43·0	80·7	58·2	23	42·4	81·4	52·1

Coefficients (A), Approximate Absolute Values (B.)

(A) Declin. $a = 0'·751$

H. F. $k = ·00018$, $q = ·00028$

V. F. $k = ·00011$, $q = ·00005$

(B) Approx. $\psi = 29°\,05'$, $X = 4·46$, $Y = 6·00$, $\theta = -53°\,21'$, $\phi = 7·50$

1842.
Cape of Good Hope.

April 11.

OBSERVATIONS OF THE MAGNETOMETERS.

The H. F. was observed 2m. after, and the V. F. 2m. before the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm.	Sc. Div.	Therm.	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
11 05 00	42·7	74·0	68·2	62·6	67·6	−·0010	+·0004	− 0·2	+ 2·3	−·0001
06	42·5	73·4		62·3		−·0011	+·0004	− 0·4	+ 2·5	−·0001
12	42·4	73·2		62·5		−·0011	+·0004	− 0·5	+ 2·5	−·0001
18	42·6	73·1		62·5		−·0011	+·0004	− 0·2	+ 2·5	−·0001
24	42·5	73·0		62·5		−·0011	+·0004	− 0·3	+ 2·5	−·0001
30	42·1	72·9		62·5		−·0011	+·0004	− 0·6	+ 2·5	−·0001
36	41·9	72·9		62·8		−·0011	+·0005	− 0·8	+ 2·6	−·0001
42	42·0	72·7		62·9		−·0011	+·0005	− 0·7	+ 2·6	−·0001
48	42·0	72·6		62·6		−·0011	+·0004	− 0·6	+ 2·5	−·0001
54	42·0	72·3		62·6		−·0011	+·0004	− 0·6	+ 2·5	−·0001
06 00	42·1	72·2	68·7	62·5	68·0	−·0011	+·0004	− 0·5	+ 2·5	−·0001
06	42·0	72·3		62·7		−·0011	+·0005	− 0·6	+ 2·6	−·0001
12	41·9	72·4		62·3		−·0010	+·0004	− 0·8	+ 2·3	−·0001
18	41·8	72·5		62·3		−·0010	+·0004	− 0·8	+ 2·3	−·0001
24	42·0	72·2		62·4		−·0010	+·0004	− 0·7	+ 2·3	−·0001
30	42·1	72·0		62·0		−·0010	+·0004	− 0·7	+ 2·3	−·0001
36	42·1	72·0		62·0		−·0010	+·0004	− 0·7	+ 2·3	−·0001
42	42·0	72·2		62·1		−·0010	+·0004	− 0·8	+ 2·3	−·0001
48	42·0	72·5		61·9		−·0009	+·0004	− 0·8	+ 2·1	−·0001
54	42·2	72·8		61·5		−·0009	+·0004	− 0·7	+ 2·1	−·0001
07 00	42·3	73·0	68·9	61·0	68·1	−·0008	+·0003	− 0·6	+ 1·8	−·0001
06	42·5	73·2		60·6		−·0008	+·0003	− 0·5	+ 1·8	−·0001
12	42·5	73·5		59·8		−·0007	+·0002	− 0·5	+ 1·5	−·0001
18	42·6	73·8		60·0		−·0007	+·0002	− 0·4	+ 1·5	−·0001
24	42·6	74·0		59·7		−·0007	+·0002	− 0·4	+ 1·5	−·0001
30	42·7	74·7		59·3		−·0005	+·0001	− 0·3	+ 1·0	−·0001
36	42·5	75·3		59·1		−·0004	+·0001	− 0·5	+ 0·8	−·0001
42	42·4	75·5		58·8		−·0004	+·0001	− 0·5	+ 0·8	−·0001
48	42·3	75·7		59·0		−·0004	+·0001	− 0·8	+ 0·8	−·0001
54	42·0	76·0		59·0		−·0003	+·0001	− 0·8	+ 0·7	·0000
08 00	42·2	76·6	68·9	58·3	68·2	−·0002	+·0001	− 0·7	+ 0·5	·0000
06	42·7	76·9		57·5		−·0002	·0000	− 0·3	+ 0·3	−·0001
12	42·9	76·9		57·0		−·0002	−·0001	− 0·2	+ 0·2	−·0001
18	42·9	76·8		56·8		−·0002	−·0001	− 0·2	+ 0·2	−·0001
24	42·9	76·6		56·9		−·0002	−·0001	− 0·2	+ 0·2	−·0001
30	42·6	76·5		57·3		−·0002	−·0001	− 0·4	+ 0·2	−·0001
36	42·3	76·7		57·8		−·0002	·0000	− 0·6	+ 0·3	−·0001
42	42·3	76·9		57·8		−·0002	·0000	− 0·6	+ 0·3	−·0001
48	42·3	77·2		57·8		−·0001	·0000	− 0·6	+ 0·2	·0000
54	42·6	77·3		57·6		−·0001	−·0001	− 0·4	0·0	−·0001
09 00	42·6	77·3	68·7	57·4	68·4	−·0001	−·0001	− 0·4	0·0	−·0001
06	42·8	77·3		57·6		−·0001	−·0001	− 0·2	0·0	−·0001
12	43·0	77·5		57·2		−·0001	−·0001	− 0·1	0·0	−·0001
18	43·0	77·7		57·0		·0000	−·0001	0·0	− 0·2	−·0001
24	43·0	77·7		57·0		·0000	−·0001	0·0	− 0·2	−·0001
30	43·0	77·7		56·8		−·0001	−·0002	0·0	− 0·2	−·0002
36	43·0	77·7		56·8		−·0001	−·0002	0·0	− 0·2	−·0002
42	43·2	78·0		56·8		·0000	−·0002	+ 0·2	− 0·3	−·0001
48	43·2	78·2		56·7		·0000	−·0002	+ 0·2	− 0·3	−·0001
54	43·2	78·2		57·0		·0000	−·0001	+ 0 2	− 0·2	−·0001
10 00	43·2	78·2	68·5	56·3	68·3	·0000	−·0002	+ 0·2	− 0·3	−·0001
06	43·1	78·6		56·2		·0000	−·0002	+ 0·2	− 0·3	−·0001
12	43·0	79·0		56·0		+·0001	−·0002	+ 0·1	− 0·5	−·0001
18	43·0	79·2		56·3		+·0001	−·0002	+ 0·1	− 0·5	−·0001
24	43·0	79·2		56·5		+·0001	−·0002	+ 0·1	− 0·5	−·0001
30	43·0	79·7		56·6		+·0001	−·0002	0·0	− 0·5	−·0001
36	43·0	79·0		56·6		·0000	−·0002	0·0	− 0·3	−·0001
42	42·8	79·0		57·0		−·0001	−·0001	− 0·2	0·0	−·0001
48	42·8	79·3		57·6		·0000	·0000	− 0·2	0·0	·0000
54	42·5	79·6		58·1		·0000	·0000	− 0·4	0·0	·0000

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Cape of Good Hope.

April 11-12.

OBSERVATIONS OF THE MAGNETOMETERS. The H. F. was observed 2m. after, and the V. F. 2m. before the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta \psi$	$\Delta \theta$	$\frac{\Delta \phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
11 11 00	42·2	80·0	68·2	58·5	68·2	·0000	+·0001	− 0·6	+ 0·2	+·0001
06	42·2	80·7		58·3		+·0001	+·0001	− 0·6	0·0	+·0001
12	42·3	81·2		57·9		+·0002	·0000	− 0·6	− 0·3	+·0001
12 00	43·3	83·8	67·8	56·3	67·8	+·0005	·0000	0·0	− 0·8	+·0002
13 00	44·7	82·8	67·6	56·8	67·5	+·0001	+·0001	+ 0·7	0·0	+·0001
14 00	43·9	80·8	66·8	60·8	67·0	−·0006	+·0005	0·0	+ 1·8	+·0001
15 00	46·2	82·8	66·7	58·4	66·8	−·0003	+·0002	+ 1·5	+ 0·8	·0000
16 00	45·0	84·8	66·6	57·6	66·7	−·0002	+·0001	+ 0·5	+ 0·5	·0000
17 00	45·0	84·1	66·5	58·6	66·7	−·0001	+·0002	+ 0·2	+ 0·5	+·0001
18 00	44·8	83·2	66·8	59·3	66·8	−·0002	+·0003	+ 0·2	+ 0·8	+·0001
19 00	42·6	85·0	66·7	62·3	66·7	·0000	+·0004	− 0·8	+ 0·7	+·0003
20 00	44·9	86·1	66·6	65·0	66·6	·0000	+·0005	+ 1·3	+ 0·8	+·0003
21 00	39·4	86·6	66·5	63·4	66·6	+·0002	+·0004	− 0·5	+ 0·3	+·0003
22 00	40·0	86·0	66·5	59·3	66·6	+·0002	+·0004	− 0·3	+ 0·3	+·0003
23 00	43·0	82·0	66·7	56·0	66·9	−·0001	+·0004	+ 0·5	+ 0·8	+·0002
12 00 00	44·0	78·5	67·4	55·9	67·3	−·0005	+·0007	− 0·5	+ 2·0	+·0003
18	44·9	77·0		57·8		−·0008	+·0008	+ 0·1	+ 2·6	+·0002
24	44·5	75·8		58·1		−·0010	+·0008	− 0·2	+ 3·0	+·0002
30	44·5	74·9		59·1		−·0011	+·0009	− 0·3	+ 3·3	+·0002
36	44·8	74·2		60·0		−·0013	+·0010	− 0·2	+ 3·8	+·0002
42	45·0	73·3		60·5		−·0014	+·0010	0·0	+ 4·0	+·0001
48	45·0	72·2		61·5		−·0016	+·0010	− 0·1	+ 4·3	+·0001
54	45·5	71·2		61·8		−·0018	+·0010	+ 0·3	+ 4·6	·0000
01 00	45·8	70·0	67·8	62·6	67·8	−·0019	+·0011	+ 0·5	+ 4·9	·0000
06	45·8	69·2		63·8		−·0020	+·0012	+ 0·5	+ 5·3	+·0001
12	45·4	68·4		64·8		−·0022	+·0013	+ 0·2	+ 5·8	·0000
18	44·9	68·2		66·6		−·0022	+·0015	− 0·1	+ 6·1	+·0002
24	44·8	69·0		69·2		−·0021	+·0017	− 0·1	+ 6·3	+·0003
30	45·0	69·3		66·5		−·0021	+·0014	+ 0·2	+ 5·8	+·0001
36	44·5	69·9		66·5		−·0019	+·0014	− 0·2	+ 5·4	+·0002
42	44·0	70·2		66·8		−·0019	+·0014	− 0·5	+ 5·4	+·0002
48	43·6	70·3		66·8		−·0019	+·0013	− 0·8	+ 5·3	+·0002
54	43·3	70·5		66·8		−·0019	+·0013	− 1·0	+ 5·3	+·0002
02 00	43·1	70·8	67·4	66·8	68·3	−·0019	+·0013	− 1·1	+ 5·3	+·0002
06	43·0	71·5		66·5		−·0017	+·0012	− 1·1	+ 4·8	+·0002
12	42·8	72·3		66·0		−·0016	+·0011	− 1·2	+ 4·4	+·0001
18	42·5	73·0		65·9		−·0014	+·0011	− 1·4	+ 4·1	+·0002
24	42·2	74·1		65·3		−·0012	+·0010	− 1·5	+ 3·6	+·0002
30	42·0	75·0		64·8		−·0010	+·0010	− 1·6	+ 3·3	+·0003
36	42·0	75·7		64·0		−·0008	+·0009	− 1·6	+ 2·8	+·0003
42	42·0	75·9		63·4		−·0007	+·0008	− 1·5	+ 2·5	+·0003
48	42·0	76·0		63·3		−·0007	+·0008	− 1·4	+ 2·5	+·0003
54	41·8	76·0		62·9		−·0006	+·0007	− 1·6	+ 2·1	+·0002
03 00	41·9	76·2	68·7	62·8	68·5	−·0006	+·0007	− 1·4	+ 2·1	+·0002
06	42·2	75·8		62·1		−·0007	+·0006	− 1·1	+ 2·1	+·0001
12	42·1	75·0		62·1		−·0008	+·0006	− 1·2	+ 2·3	+·0001
18	42·0	74·2		62·6		−·0009	+·0006	− 1·2	+ 2·5	+·0001
24	41·5	73·8		63·2		−·0010	+·0007	− 1·5	+ 2·8	+·0001
30	41·1	73·7		64·1		−·0010	+·0007	− 1·7	+ 2·8	+·0001
36	41·0	73·8		64·5		−·0010	+·0008	− 1·8	+ 3·0	+·0002
42	40·9	74·0		64·5		−·0009	+·0008	− 1·8	+ 2·8	+·0002
48	40·9	74·5		64·1		−·0008	+·0007	− 1·7	+ 2·5	+·0002
54	40·4	75·1		63·8		−·0007	+·0007	− 2·1	+ 2·3	+·0002
04 00	40·0	75·8	68·9	63·8	68·7	−·0006	+·0006	− 2·3	+ 2·0	+·0002
06	40·0	76·0		63·3		−·0005	+·0006	− 2·3	+ 1·8	+·0002
12	40·0	76·1		63·0		−·0005	+·0005	− 2·3	+ 1·7	+·0001
18	40·1	75·2		62·1		−·0006	+·0004	− 2·3	+ 1·7	·0000
24	41·0	74·1		61·3		−·0008	+·0003	− 1·6	+ 1·8	−·0001
30	41·0	73·2		61·6		−·0009	+·0004	− 1·5	+ 2·1	−·0001
36	41·0	73·0		62·0		−·0010	+·0004	− 1·5	+ 2·3	−·0001
42	41·2	73·4		62·3		−·0009	+·0005	− 1·4	+ 2·3	·0000
48	42·1	73·4		60·7		−·0009	+·0003	− 0·7	+ 2·0	−·0001
54	42·8	73·0		59·9		−·0009	+·0002	− 0·2	+ 1·8	−·0002

1842.
Cape of Good Hope.

April 12.

OBSERVATIONS OF THE MAGNETOMETERS.

The H. F. was observed 2m. after, and the V. F. 2m. before the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
						$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
12 05 00	42·7	73·0	69·2	59·7	68·9	−·0009	+·0002	− 0·2	+ 1·8	−·0002
06	42·9	73·0		59·7		−·0009	+·0002	− 0·1	+ 1·8	−·0002
12	42·6	73·2		59·3		−·0008	+·0001	− 0·3	+ 1·5	−·0002
18	42·4	73·3		59·6		−·0008	+·0001	− 0·4	+ 1·5	−·0002
24	42·5	73·2		59·1		−·0008	+·0001	− 0·3	+ 1·5	−·0002
30	42·7	73·1		59·1		−·0008	+·0001	− 0·2	+ 1·5	−·0002
36	42·5	73·0		59·1		−·0008	+·0001	− 0·3	+ 1·5	−·0002
42	42·6	72·7		59·1		−·0008	+·0001	− 0·2	+ 1·5	−·0002
48	42·5	72·3		59·1		−·0009	+·0001	− 0·2	+ 1·7	−·0003
54	42·6	72·1		59·1		−·0009	+·0001	− 0·2	+ 1·7	−·0003
06 00	42·2	72·1	69·6	59·5	69·1	−·0009	+·0002	− 0·5	+ 1·8	−·0002
06	42·3	72·0		59·7		−·0009	+·0002	− 0·4	+ 1·8	−·0002
12	42·5	72·0		59·5		−·0009	+·0002	− 0·3	+ 1·8	−·0002
18	42·2	72·5		59·7		−·0007	+·0002	− 0·5	+ 1·5	−·0001
24	42·0	72·9		59·8		−·0007	+·0002	− 0·7	+ 1·5	−·0001
30	42·4	72·3		59·4		−·0008	+·0002	− 0·5	+ 1·7	−·0002
36	42·9	71·8		58·7		−·0009	+·0001	− 0·1	+ 1·7	−·0003
42	42·9	71·6		58·7		−·0009	+·0001	− 0·1	+ 1·7	−·0003
48	42·4	71·9		59·5		−·0008	+·0002	− 0·5	+ 1·7	−·0002
54	42·0	72·2		59·8		−·0007	+·0002	− 0·8	+ 1·5	−·0001
07 00	41·2	72·6	69·7	60·0	69·3	−·0007	+·0002	− 1·4	+ 1·5	−·0001
06	40·6	72·7		61·2		−·0006	+·0004	− 1·9	+ 1·7	·0000
12	40·0	72·4		61·8		−·0007	+·0005	− 2·3	+ 2·0	+·0001
18	39·3	72·4		62·4		−·0007	+·0005	− 2·9	+ 2·0	+·0001
24	39·0	73·0		63·2		−·0006	+·0006	− 3 1	+ 2·0	+·0002
30	39·2	73·9		62·8		−·0005	+·0006	− 2·9	+ 1·8	+·0002
36	40·0	73·5		61·6		−·0005	+·0005	− 2·3	+ 1·7	+·0001
42	39·0	73·1		61·1		−·0006	+·0004	− 3·1	+ 1·7	·0000
48	39·6	74·3		61·6		−·0004	+·0005	− 2·6	+ 1·5	+·0002
54	39·2	74·5		61·0		−·0004	+·0004	− 2·9	+ 1·3	+·0001
08 00	39·0	73·9	69·7	61·0	69·3	−·0005	+·0004	− 3·1	+ 1·5	+·0001
06	38·3	73·3		61·6		−·0006	+·0005	− 3·6	+ 1·8	+·0001
12	37·7	73·6		62·7		−·0005	+·0006	− 4·1	+ 1·8	+·0002
18	37·2	73·5		63·1		−·0005	+·0006	− 4·4	+ 1·8	+·0002
24	38·0	73·8		63·0		−·0005	+·0006	− 3·8	+ 1·8	+·0002
30	39·0	73·1		61·6		−·0006	+·0004	− 3·1	+ 1·7	·0000
36	39·3	72·6		60·6		−·0007	+·0003	− 2·9	+ 1·7	−·0001
42	40·0	71·6		60·9		−·0008	+·0004	− 2·3	+ 2·0	·0000
48	40·5	70·9		60·8		−·0010	+·0003	− 2·0	+ 2·1	−·0002
54	40·9	71·8		60·7		−·0008	+·0003	− 1·7	+ 1·8	−·0001
09 00	40·9	70·9	69·8	61·2	69·3	−·0009	+·0004	− 1·7	+ 2·1	−·0001
06	40·8	69·4		61·6		−·0012	+·0004	− 1·7	+ 2·6	−·0002
12	40·8	69·2		61·9		−·0012	+·0004	− 1·7	+ 2·6	−·0002
18	40·9	69·3		61·8		−·0012	+·0004	− 1·6	+ 2·6	−·0002
24	41·0	69·5		61·6		−·0012	+·0004	− 1·5	+ 2·6	−·0002
30	41·0	69·7		61·6		−·0012	+·0004	− 1·5	+ 2·6	−·0002
36	41·0	69·8		61·5		−·0012	+·0004	− 1 5	+ 2·6	−·0002
42	40·5	70·0		61·9		−·0011	+·0004	− 1·9	+ 2·5	−·0001
48	40·4	70·5		61·9		−·0010	+·0004	− 1·9	+ 2·3	−·0001
54	40·4	71·4		61·6		−·0009	+·0004	− 1·9	+ 2·1	−·0001
10 00	39·7	72·3	69·7	61·4	69·3	−·0007	+·0004	− 2·4	+ 1·8	·0000

1842.
Toronto.

April 12—13.

TORONTO, 1842. APRIL 12—13.

MEAN MONTHLY READINGS OF THE MAGNETOMETERS.

Mean Göttingen Time.	Declination.	H. F. at 54°·5.	V. F. at 54°·4.	Mean Göttingen Time.	Declination.	H. F. at 54°·5.	V. F. at 54°·4.
Hours.	Sc. Div.	Sc. Div.	Sc. Div.	Hours.	Sc. Div.	Sc. Div.	Sc. Div.
00	136·0	442·9	86·0	12	129·6	455·4	89·6
02	136·8	441·0	86·9	14	130·6	448·1	88·2
04	132·9	433·4	86·6	16	131·7	443·0	86·1
06	126·3	438·7	86·8	18	134·2	448·0	82·9
08	124·8	452·0	88·8	20	133·7	442·5	83·3
10	126·2	458·7	89·2	22	136·8	443·7	84·2

Coefficients (A), Approximate Absolute Values (B.)

(A) Declin. $k = 0'·721$

H. F. $k = ·000074$, $q = ·00026$

V. F. $k = ·000093$, $q = ·00011$

(B) Approx. $\psi = 1°19'$, X = 3·54, Y = 13·44, $\theta = 75°\ 16'$, $\phi = 13·90$

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 2m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
12 20 02	23·0	369·0	51·0	68·0	52·0	−·0064	−·0016	− 7·7	+ 4·1	−·0019
20	06·8	331·0		40·1		−·0091	−·0042	−19·6	+ 4·2	−·0045
26	07·4	334·4		42·0		−·0089	−·0041	−19·3	+ 4·1	−·0044
32	04·3	339·5		42·5		−·0085	−·0040	−21·7	+ 3·8	−·0042
38	14·8	344·6		42·1		−·0081	−·0041	−14·3	+ 3·4	−·0043
44	18·0	333·6		37·2		−·0089	−·0045	−12·1	+ 3·7	−·0048
50	27·7	313·5		39·5		−·0104	−·0042	− 5·2	+ 5·2	−·0046
56	42·7	359·1		48·0		−·0070	−·0035	+ 5·4	+ 3·0	−·0038
21 02	54·2	379·2	51·3	47·3	52·2	−·0056	−·0036	+13·6	+ 1·7	−·0037
08	62·4	411·2		49·4		−·0032	−·0034	+19·4	− 0·2	−·0034
14	69·6	443·2		50·0		−·0008	−·0034	+24·5	− 2·2	−·0033
20	68·2	445·2		49·5		−·0007	−·0034	+23·4	− 2·3	−·0033
26	62·9	442·1		48·1		−·0010	−·0036	+19·4	− 2·2	−·0035
32	58·2	428·4		47·3		−·0020	−·0036	+15·9	− 1·4	−·0035
38	53·3	420·9		47·5		−·0026	−·0036	+12·3	− 0·9	−·0035
44	51·8	388·4		42·1		−·0050	−·0041	+11·2	+ 0·8	−·0041
50	48·1	367·3		38·5		−·0066	−·0045	+ 8·3	+ 1·8	−·0046
56	49·2	346·7		42·0		−·0081	−·0042	+ 9·0	+ 3·3	−·0044
22 02	50·8	344·2	51·0	42·2	52·0	−·0083	−·0041	+10·1	+ 3·6	−·0043
08	44·5	354·9		43·9		−·0075	−·0040	+ 5·5	+ 3·0	−·0042
14	34·8	369·5		52·0		−·0064	−·0032	− 1·3	+ 2·7	−·0034
20	33·4	395·2		54·4		−·0045	−·0030	− 2·4	+ 1·3	−·0031
26	30·2	410·6		51·0		−·0034	−·0034	− 4·6	0·0	−·0034
32	30·4	414·8		51·1		−·0031	−·0034	− 4·4	− 0·3	−·0034
38	32·1	411·4		50·0		−·0034	−·0035	− 3·3	− 0·1	−·0035
44	32·8	418·0		52·2		−·0029	−·0033	− 2·7	− 0·3	−·0033
50	34·8	429·5		53·7		−·0020	−·0031	− 1·2	− 0·9	−·0030
56	34·1	432·7		55·7		−·0018	−·0030	− 1·6	− 1·0	−·0030
23 02	34·8	432·7	50·5	55·7	52·0	−·0018	−·0030	− 1·1	− 1·0	−·0030
08	39·6	423·1		55·7		−·0025	−·0030	+ 2·3	− 0·4	−·0029
14	46·2	426·2		59·4		−·0023	−·0026	+ 7·1	− 0·3	−·0025
20	53·5	431·5		59·0		−·0019	−·0027	+12·3	− 0·7	−·0027
26	52·7	421·7		58·0		−·0016	−·0028	+11·9	− 1·0	−·0027
32	54·4	423·3		58·6		−·0015	−·0027	+13·1	− 1·0	−·0026
38	50·1	409·7		58·2		−·0025	−·0028	+10·0	− 0·3	−·0027
44	47·2	412·7		60·1		−·0023	−·0026	+ 8·0	− 0·3	−·0025
50	43·7	418·2		63·5		−·0019	−·0023	+ 5·4	− 0·3	−·0023
56	38·6	429·0		66·9		−·0011	−·0020	+ 1·8	− 0·8	−·0020
13 00 02	37·1	436·0	50·5	67·9	52·2	−·0006	−·0019	+ 0·8	− 1·1	−·0018
08	35·1	428·7		65·9		−·0012	−·0021	− 0·6	− 0·8	−·0020
14	38·0	426·2		66·4		−·0014	−·0021	+ 1·3	− 0·6	−·0021
20	37·6	419·1		64·6		−·0020	−·0023	+ 1·1	− 0·3	−·0023

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OBSERVATIONS OF THE MAGNETOMETERS. The Declination was observed 2m. before, and the V. F. 2m. after the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
13 00 26	37·6	418·2		66·1		−·0022	−·0021	+ 1·0	+ 0·1	−·0021
32	33·0	413·4		66·1		−·0026	−·0022	− 2·3	+ 0·3	−·0022
38	25·5	417·0		68·5		−·0024	−·0019	− 7·8	+ 0·4	−·0019
44	30·3	416·7		71·0		−·0024	−·0017	− 4·3	+ 0·6	−·0017
50	39·1	422·7		75·0		−·0021	−·0014	+ 1·9	+ 0·6	−·0014
56	33·8	418·2		75·1		− 0025	−·0014	− 1·8	+ 0·9	−·0015
01 02	31·3	413·1	50·0	73·5	51·0	−·0028	−·0015	− 3·7	+ 1·1	−·0016
08	35·1	422·1		76·2		−·0022	−·0013	− 0·9	+ 0·8	−·0013
14	33·3	400·7		72·9		−·0038	−·0016	− 2·3	+ 1·9	−·0017
20	31·5	402·0		73·4		−·0038	−·0016	− 3·6	+ 1·9	−·0017
26	33·0	414·8		72·4		−·0029	−·0017	− 2·6	+ 1·0	−·0018
32	28·1	407·5		73·1		−·0034	−·0016	− 6·2	+ 1·5	−·0017
38	29·3	403·6		72·8		−·0038	−·0016	− 5·3	+ 1·9	−·0017
44	27·0	401·4		75·0		−·0040	−·0015	− 7·0	+ 2·1	−·0017
50	24·9	407·4		75·8		−·0036	−·0014	− 8·5	+ 1·9	−·0015
56	20·8	397·4		78·6		−·0044	−·0011	−11·5	+ 2·8	−·0013
02 02	19·6	402·9	50·0	79·0	50·6	−·0040	−·0011	−12·3	+ 2·5	−·0013
08	24·5	408·4		77·7		−·0036	−·0012	− 8·7	+ 2·0	−·0014
14	24·7	410·1		78·5		−·0034	−·0012	− 8·4	+ 1·9	−·0013
20	31·0	398·6		79·0		−·0042	−·0011	− 3·7	+ 2·6	−·0013
26	32·0	392·7		79·4		−·0046	−·0011	− 2·9	+ 3·0	−·0013
32	29·9	381·4		79·4		−·0054	−·0011	− 4·2	+ 3·6	−·0014
38	32·1	381·6		80·3		−·0054	−·0010	− 2·5	+ 3·7	−·0013
44	30·8	378·9		82·6		−·0056	·0008	− 3·3	+ 4·1	−·0011
50	30·8	383·6		85·5		−·0052	−·0005	− 3·1	+ 4·1	−·0008
56	25·5	385·3		86·5		−·0051	−·0004	− 6·8	+ 4·1	−·0007
03 02	27·2	393·8	49·8	88·5	50·4	−·0044	−·0002	− 5·5	+ 3·6	−·0005
08	25·2	407·7		88·6		−·0034	−·0002	− 6·9	+ 2·7	−·0004
14	24·9	422·5		88·6		−·0022	−·0002	− 6·9	+ 1·7	−·0003
20	23·0	426·1		88·1		−·0019	−·0003	− 8·1	+ 1·4	−·0004
26	21·0	433·3		88·5		−·0013	−·0002	− 9·4	+ 0·9	−·0003
32	22·0	435·0		88·5		−·0012	−·0002	− 8·5	+ 0·9	−·0003
38	26·0	436·7		89·8		−·0010	−·0001	− 5·4	+ 0·8	−·0002
44	31·3	447·3		91·2		−·0002	·0000	− 1·5	+ 0·2	·0000
50	33·9	450·5		91·6		+·0001	+·0001	+ 0·6	0·0	·0000
56	35·9	452·2		91·5		+·0003	+·0001	+ 2·2	+ 0·2	−·0001
04 02	37·6	452·0	50·2	91·6	50·2	+·0003	+·0001	+ 3·4	− 0·2	+·0001
08	40·0	457·0		92·4		+·0006	+·0001	+ 5·3	− 0·4	+·0001
14	39·8	458·0		92·6		+·0007	+·0002	+ 5·4	− 0·4	+·0003
20	39·9	458·7		92·6		+·0007	+·0002	+ 5·8	− 0·4	+·0003
26	40·3	456·2		93·0		+·0005	+·0002	+ 6·3	− 0·3	+·0002
32	40·7	454·5		93·0		+·0004	+·0002	+ 6·9	− 0·2	+·0002
38	41·1	453·0		93·4		+·0002	+·0003	+ 7·3	+ 0·1	+·0003
44	41·2	457·0		93·9		+·0005	+·0003	+ 7·6	− 0·2	+·0003
50	40·6	454·2		93·6		+·0003	+·0003	+ 7·4	0·0	·0000
56	41·7	456·1		94·1		+·0004	+·0003	+ 8·5	− 0·1	+·0003
05 02	42·4	457·6	50·4	94·1	50·6	+·0005	+·0003	+ 9·2	− 0·2	+·0003
08	41·4	456·5		94·1		+·0004	+·0003	+ 8·7	− 0·1	+·0003
14	41·9	457·7		94·7		+·0005	+·0004	+ 9·4	− 0·1	+·0004
20	41·4	464·2		94·7		+·0010	+·0004	+ 9·2	− 0·5	+ 0004
26	36·4	451·7		94·3		·0000	+·0003	+ 5·9	+ 0·3	+·0003
32	36·0	445·7		94·3		+·0004	+·0003	+ 5·9	− 0·1	+·0003
38	34·6	446·1		94·1		+·0004	+·0003	+ 5·0	− 0·1	+·0003
44	34·2	448·2		94·1		+·0003	+·0003	+ 4·9	0·0	·0000
50	31·5	449·7		94·1		+·0002	+·0003	+ 3·3	+ 0·1	+·0001
56	33·0	453·2		94·1		+·0001	+·0003	+ 4·6	+ 0·2	+·0003
06 02	34·0	453·0	50·5	94·4	50·4	·0000	+·0003	+ 5·5	+ 0·3	+·0003
08	34·3	452·9		95·0		·0000	+·0004	+ 5·9	+ 0·3	+·0004
14	33·1	454·2		95·5		·0000	+·0004	+ 4·9	+ 0·3	+·0004
20	32·4	453·1		95·7		−·0001	+·0004	+ 4·5	+ 0·4	+·0004
26	32·3	450·1		95·9		−·0004	+·0004	+ 4·5	+ 0·7	+·0004
32	32·6	450·4		95·8		−·0004	+·0004	+ 4·8	+ 0·7	+·0004

1842. Toronto. April 13.

OBSERVATIONS OF THE MAGNETOMETERS. The Declination was observed 2m. before, and the V. F. 2m. after the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
13 06 38	32·0	449·7		96·1		−·0005	+·0004	+ 4·4	+ 0·8	+·0003
44	30·1	452·1		96·8		−·0004	+·0005	+ 3·1	+ 0·8	+·0004
50	29·5	448·7		96·8		−·0007	+·0005	+ 2·8	+ 1·0	+·0004
56	28·9	443·4		96·8		−·0011	+ 0005	+ 2·3	+ 1·4	+·0004
07 02	27·3	434·0	50·5	96·2	50·5	−·0019	+·0004	+ 1·2	+ 1·9	+·0002
08	25·6	434·4		96·2		−·0019	+·0004	+ 0·1	+ 1·9	+·0002
14	22·4	429·4		96·2		−·0023	+·0004	− 2·3	+ 2·3	+·0002
20	21·2	425·7		97·1		−·0027	+·0005	− 3·0	+ 2·7	+·0003
26	22·1	436·3		98·3		−·0019	+·0006	− 2·3	+ 2·1	+·0004
32	24·1	444·9		100·3		−·0013	+·0008	− 0·8	+ 1·8	+·0007
38	24·2	448·4		101·2		−·0011	+·0008	− 0·6	+ 1·6	+·0007
44	24·4	444·7		102·4		−·0015	+·0009	− 0·4	+ 2·0	+·0007
50	27·5	451·6		102·9		−·0010	+·0010	+ 1·8	+ 1·7	+·0009
56	29·0	461·6		103·9		−·0003	+·0011	+ 3·0	+ 1·2	+·0010
08 02	27·6	464·1	50·4	103·1	50·6	−·0002	+·0010	+ 2·0	+ 1·0	+·0009
08	26·3	466·4		103·1		·0000	+·0010	+ 1·0	+ 0·9	+·0009
14	27·2	464·0		102·7		−·0002	+·0009	+ 1·6	+ 0·9	+·0008
20	27·0	461·8		102·2		−·0004	+·0009	+ 1·4	+ 1·1	+·0008
26	29·3	467·8		102·4		·0000	+·0009	+ 3·0	+ 0·8	+·0008
32	29·1	473·6		102·4		+·0004	+·0009	+ 2·8	+ 0·4	+·0009
38	28·8	483·0		104·4		+·0011	+·0011	+ 2·6	0·0	·0000
44	30·2	492·4		105·9		+·0017	+·0012	+ 3·5	− 0·4	+·0012
50	30·2	481·0		103·8		+·0009	+·0010	+ 3·5	+ 0·1	+·0010
56	28·1	473·8		103·3		+·0003	+·0010	+ 1·9	+ 0·6	+·0010
09 02	28·0	479·0	50·4	103·4	50·6	+·0007	+·0010	+ 1·8	+ 0·3	+·0010
08	27·3	477·8		102·9		+·0006	+·0009	+ 1·2	+ 0·3	+·0009
14	27·2	477·3		102·9		+·0005	+·0009	+ 1·1	+ 0·3	+·0009
20	27·1	473·1		102·4		+·0002	+·0009	+ 1·0	+ 0·6	+·0009
26	27·7	474·6		102·3		+·0003	+·0009	+ 1·3	+ 0·5	+·0009
32	27·2	480·1		102·2		+·0006	+·0009	+ 0·9	+ 0·3	+·0009
38	27·0	485·3		102·3		+·0010	+·0009	+ 0·8	− 0·1	+·0009
44	26·7	489·4		102·7		+·0013	+·0009	+ 0·5	− 0·3	+·0009
50	25·9	485·7		102·4		+·0010	+·0009	− 0·1	− 0·1	+·0009
56	25·2	482·1		101·9		+·0007	+·0008	− 0·6	+ 0·1	+·0008
10 02	23·2	471·4	50·4	101·6	50·6	+·0001	+·0008	− 2·2	+ 0·8	+·0007
08	22·7	468·4		101·6		+·0003	+·0008	− 2·7	+ 0·9	+·0007
14	22·9	462·0		102·3		+·0008	+·0009	− 2·6	+ 1·4	+·0008
20	24·2	470·7		103·1		+·0001	+·0009	− 1·8	+ 0·9	+·0008
26	24·9	474·4		102·8		+·0002	+·0009	− 1·4	+ 0·6	+·0009
32	25·6	474·9		102·2		+·0002	+·0008	− 1·1	+ 0·5	+·0008
38	24·4	480·4		102 8		+·0006	+·0009	− 2·0	+ 0·3	+·0009
44	24·1	476·3		101·9		+·0003	+·0008	− 2·4	+ 0·4	+·0008
50	23·2	467·9		100·8		−·0003	+·0007	− 3·2	+ 0·9	+·0006
56	23·2	454·5		100·2		−·0012	+·0006	− 3·3	+ 1·5	+·0005
11 02	19·8	450·7	50·5	100·8	50·4	−·0018	+·0007	− 5·9	+ 2·1	+·0005
08	21·2	452·6		102·3		−·0014	+·0008	− 4·9	+ 1·9	+·0007
14	22·9	460·4		103·6		−·0008	+·0010	− 3·8	+ 1·5	+·0009
20	28·4	465·0		103·8		−·0004	+·0010	0·0	+ 1·2	+·0009
26	32·4	473·8		103·2		+·0003	+·0009	+ 2·8	+ 0·5	+·0009
32	30·7	477·9		102·8		+·0006	+·0009	+ 1·3	+ 0·3	+·0009
38	28·7	476·1		102·4		+·0005	+·0009	− 0·1	+ 0·3	+·0009
44	26·0	467·9		102·7		−·0001	+·0009	− 2·3	+ 0·9	+·0008
50	24·4	463·5		103·7		−·0005	+·0010	− 3·5	+ 1·3	+·0009
56	24·1	452·7		103·5		−·0012	+·0010	− 3·8	+ 1·9	+·0009
12 02	26·7	457·7	50·5	107·9	5°·9	−·0009	+·0014	− 2·0	+ 1·9	+·0012
08	29·5	446·8		106·3		−·0016	+·0012	− 0·1	+ 2·4	+·0010
14	38·0	459·9		104·0		−·0006	+·0010	+ 6·0	+ 1·4	+·0009
20	33·8	459·8		102·5		−·0006	+·0009	+ 2·9	+ 1·3	+·0008
26	31·9	458·8		100·1		−·0006	+·0007	+ 1·5	+ 1·1	+·0006
32	28·7	459·3		99·0		−·0005	+·0006	− 0·8	+ 0·9	+·0005
38	24·2	447·9		98·0		−·0013	+·0005	− 4·1	+ 1·5	+·0004
44	25·8	448·1		97·3		−·0013	+·0005	− 3·0	+ 1·5	+·0004

1842. Toronto. April 13.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 2m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
13 12 50	23·0	448·4		97·0		−·0012	+·0004	− 5·0	+ 1·4	+·0003
56	23·0	445·8		96·1		−·0014	+·0004	− 5·1	+ 1·5	+·0003
13 02	23·8	446·2	51·1	96·1	51·3	−·0013	+·0004	− 4·5	+ 1·4	+·0003
08	25·3	443·8		95·3		−·0014	+·0003	− 3·5	+ 1·4	+·0002
14	28·0	444·5		94·6		−·0014	+·0003	− 1·5	+ 1·4	+·0002
20	28·8	451·6		94·6		−·0008	+·0003	− 1·1	+ 0·9	+·0002
26	25·2	454·1		94·7		−·0006	+·0003	− 3·7	+ 0·8	+·0002
32	23·2	446·2		94·1		−·0011	+·0003	− 5·1	+ 1·2	+·0002
38	25·2	445·9		94·1		−·0011	+·0003	− 3·7	+ 1·2	+·0002
44	26·7	447·1		94·1		−·0010	+·0003	− 2·8	+ 1·1	+·0002
50	27·2	451·0		94·1		−·0006	+·0003	− 2·4	+ 0·8	+·0002
56	27·2	449·0		93·8		−·0008	+·0003	− 2·5	+ 0·9	+·0002
14 02	28·0	448·0	51·5	93·8	52·0	−·0007	+·0003	− 1·8	+ 0·9	+·0002
08	28·1	448·3		93·8		−·0008	+·0003	− 1·8	+ 0·9	+·0002
14	29·3	449·8		93·6		−·0006	+·0003	− 1·1	+ 0·8	+·0002
20	29·7	451·1		93·4		−·0004	+·0003	− 0·8	+ 0·6	+·0003
26	29·6	451·4		93·3		−·0004	+·0003	− 1·0	+ 0·6	+·0003
32	29·1	451·6		93·0		−·0003	+·0003	− 1·5	+ 0·5	+·0003
38	28·8	450·0		92·7		−·0004	+·0003	− 1·8	+ 0·6	+·0003
44	29·2	449·0		92·5		−·0004	+·0003	− 1·5	+ 0·6	+·0003
50	30·0	450·0		92·3		−·0003	+·0003	− 1·1	+ 0·5	+·0003

VAN DIEMEN ISLAND, 1842. APRIL 12—13.

1842. Van Diemen Island. April 12.

MEAN MONTHLY READINGS OF THE MAGNETOMETERS.

Mean Göttingen Time.	Declination.	H. F. at 56°·5.	V. F. at 56°·5.	Mean Göttingen Time.	Declination.	H. F. at 56°·5.	V. F. at 56°·5.
Hours.	Sc. Div.	Sc. Div.	Sc. Div.	Hours.	Sc. Div.	Sc. Div.	Sc. Div.
00	68·2	58·2	98·1	12	68·8	54·0	86·3
01	69·5	57·7	95·2	13	68·8	52·2	87·8
02	69·9	57·0	94·6	14	71·3	51·9	92·3
03	69·5	59·7	88·2	15	74·1	49·7	94·7
04	71·6	58·4	89·3	16	76·6	52·5	100·4
05	72·4	58·8	88·0	17	77·2	55·5	100·8
06	72·6	58·6	88·5	18	77·3	57·6	104·5
07	72·2	59·1	86·2	19	74·9	59·6	101·8
08	72·5	58·3	84·7	20	73·5	59·4	101·2
09	72·5	59·7	85·8	21	72·9	58·1	102·0
10	71·0	60·0	82·1	22	71·8	58·4	101·6
11	69·1	56·9	85·0	23	70·0	58·4	98·5

Coefficients (A), Approximate Absolute Values (B.)

(A)
- Declin. $a = 0'·71$
- H. F. $k = ·000120$, $q = ·000234$
- V. F. $k = ·000035$, $q = ·00021$

(B) Approx.
- $\psi = -9°\,55'$
- $X = 4·51$
- $Y = 12·84$
- $\theta = -70°\,37'$
- $\phi = 13·62$

OBSERVATIONS OF THE MAGNETOMETERS.

The H. F. was observed 2m. 30s. before, and the V. F. 2m. 30s. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\Delta\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
12 22 00	60·9	—		—		—	—	− 7·7	—	—
05	60·7	—		—		—	—	− 7·7	—	—
10	59·2	—		—		—	—	− 8·7	—	—
15	61·1	—		—		—	—	− 7·2	—	—
20	64·1	—		—		—	—	− 5·1	—	—
25	63·7	—		—		—	—	− 5·2	—	—
30	63·2	—		—		—	—	− 5·5	—	—

1842.
Van Diemen Island.

April 12 – 13.

OBSERVATIONS OF THE MAGNETOMETERS. The H. F. was observed 2m. 30s. before, and the V. F. 2m. 30s. after the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
12 23 00	61·0	—		—		—	—	− 6·4	—	—
13 00 00	62·3	21·9	61·0	111·3	59·8	−·0034	+·0012	− 4·2	+ 5·0	−·0007
01 00	71·2	40·6	60·5	74·1	59·4	−·0011	−·0001	− 1·2	+ 1·1	−·0002
15	73·0	30·0		94·2		−·0025	+·0006	+ 2·4	+ 3·2	+·0003
20	70·9	—		—		—	—	+ 0·9	—	—
25	65·6	25·9		89·4		−·0030	+·0004	− 2·9	+ 3·7	·0000
30	60·2	—		—		—	—	− 6·8	—	—
35	55·1	25·4		84·6		−·0030	+·0002	−10·3	+ 3·5	−·0001
40	52·0	—		—		—	—	−12·7	—	—
45	51·1	28·5		81·0		−·0027	+·0001	−13·3	+ 3·0	−·0002
02 00	59·8	28·4	60·0	80·0	59·0	−·0027	·0000	− 7·2	+ 2·9	−·0003
07·30	59·2	—		—		—	—	− 7·5	—	—
15	69·4	41·0		73·0		−·0013	−·0002	− 0·3	+ 1·2	−·0003
20	69·3	—		—		—	—	− 0·4	—	—
25	67·6	47·9		60·1		−·0005	−·0006	− 1·5	− 0·1	−·0006
30	67·2	—		—		—	—	− 1·8	—	—
35	72·4	62·1		49·1		+·0012	−·0009	+ 1·9	− 2·3	−·0007
40	70·8	—		—		—	—	+ 0·8	—	—
45	67·5	51·4		43·7		−·0002	−·0011	− 1·5	− 1·0	−·0010
40	61·3	—		—		—	—	− 5·9	—	—
55	54·7	36·1		46·6		−·0021	−·0009	−10·5	+ 1·3	−·0010
03 00	50·9	28·8	59·9	46·6	59·1	−·0030	−·0009	−13·2	+ 2·1	−·0011
05	48·2	—		—		—	—	−15·3	—	—
10	48·1	—		—		—	—	−15·5	—	—
15	48·2	—		—		—	—	−15·5	—	—
20	52·8	—		—		—	—	−12·4	—	—
25	53·9	—		—		—	—	−11·8	—	—
30	54·2	—		—		—	—	−11·7	—	—
35	57·3	—		—		—	—	− 9·5	—	—
40	63·3	—		—		—	—	− 5·4	—	—
45	64·5	—		—		—	—	− 4·7	—	—
50	66·0	—		—		—	—	− 3·8	—	—
04 00	69·3	—	59·8	—	59·2	—	—	− 1·6	—	—
10	70·0	—		—		—	—	− 1·2	—	—
15	69·7	35·3		85·1		−·0021	+·0004	− 1·5	+ 2·7	+·0001
20	69·7	—		—		—	—	− 1·5	—	—
05 00	71·7	40·9	58·9	88·5	58·1	−·0017	+·0004	− 0·5	+ 2·1	+·0002
06 00	70·8	—		—		—	—	− 1·3	—	—
07 00	81·0	49·0	57·9	98·8	56·8	−·0010	+·0005	+ 6·3	+ 1·6	+·0003
10	83·3	—		—		—	—	+ 7·8	—	—
15	86·3	51·0		107·0		−·0007	+·0008	+ 9·9	+ 1·6	+·0006
20	87·0	—		—		—	—	+10·4	—	—
25	85·1	52·8		99·6		−·0005	+·0005	+ 9·1	+ 1·1	+·0004
30	82·8	—		—		—	—	+ 7·4	—	—
35	79·9	25·4		87·7		−·0001	+·0001	+ 5·4	+ 0·2	+·0001
40	77·9	—		—		—	—	+ 4·0	—	—
45	75·5	52·8		96·8		−·0004	+·0004	+ 2·2	+ 0·9	+·0003
50	74·3	—		—		—	—	+ 1·3	—	—
55	74·8	49·9		98·8		−·0008	+·0005	+ 1·6	+ 1·4	+·0004
08 00	73·7	47·4	57·8	87·8	56·0	−·0011	·0000	+ 0·8	+ 1·2	−·0001

TORONTO, 1842. APRIL 14—15.

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Toronto.

April 14.

For Mean Monthly Readings, *see* page 28.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 2m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
						$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
14 16 02	145·8	406·2	54·2	91·2	54·7	−·0028	+·0005	+10·2	+ 2·8	+·0003
08	145·6	—		—		—	—	+10·0	—	—
14	155·5	408·2		96·8		−·0027	+·0011	+17·0	+ 3·2	+·0009
20	153·9	408·2		91·5		−·0027	+·0006	+15·7	+ 2·8	+·0004
26	155·7	391·4		85·7		−·0040	+·0001	+17·0	+ 3·5	−·0002
32	168·4	350·7		46·9		−·0070	−·0035	+25·9	+ 3·0	−·0037
38	182·2	254·0		20·0		−·0142	−·0060	+35·8	+ 6·9	−·0065
44	151·5	150·7		49·9		−·0219	−·0032	+13·6	+15·8	−·0044
50	135·6	308·4		5·5		−·0102	−·0073	+ 2·0	+ 2·5	−·0075
56	88·8	344·2		12·0		−·0076	−·0066	−31·8	+ 0·9	−·0067
17 02	75·6	308·3	54·2	60·8	56·0	−·0102	−·0021	−41·4	+ 6·8	−·0026
08	131·9	463·2		55·9		+·0012	−·0025	− 0·8	− 3·1	−·0023
14	157·2	501·0		40·9		+·0040	−·0039	+17·3	− 6·7	−·0034
20	133·3	513·3		34·9		+·0049	−·0044	− 0·1	− 7·9	−·0038
26	110·4	488·5		36·3		+·0030	−·0043	−16·7	− 6·2	−·0038
32	106·1	490·0		14·0		+·0031	−·0063	−19·8	− 8·0	−·0057
38	53·3	403·2		12·1		−·0034	−·0064	−58·0	− 2·5	−·0062
44	7·7	243·8		47·7		−·0152	−·0031	−90·9	+10·2	−·0039
50	52·2	212·0		44·9		−·0176	−·0033	−59·0	+12·1	−·0042
56	86·0	211·4		38·3		−·0176	−·0039	−34·7	+11·6	−·0048
18 02	88·7	232·9	54·0	43·9	57·0	−·0161	−·0034	−32·8	+10·7	−·0042
08	118·0	290·2		42·7		−·0118	−·0035	−11·6	+ 7·0	−·0040
14	137·1	273·2		37·9		−·0131	−·0040	+ 2·0	+ 7·7	−·0046
20	147·3	252·0		28·9		−·0146	−·0048	+ 9·5	+ 8·3	−·0054
26	151·5	221·7		19·8		−·0169	−·0057	+12·5	+ 9·5	−·0064
32	143·2	213·0		24·7		−·0175	−·0052	+ 6·6	+10·4	−·0060
38	131·1	158·9		30·0		−·0215	−·0047	− 2·2	+14·2	−·0058
44	115·7	12·7		38·0		−·0323	−·0040	−13·3	+23·9	−·0058
50	75·5	−85·5*		65·0		−·0396	−·0015	−42·3	+17·3	−·0039
56	69·0	26·4		43·1		−·0313	−·0036	−46·9	+23·4	−·0054
19 02	61·5	86·9	53·5	33·2	56·0	−·0268	−·0045	−52·3	+18·9	−·0059
08	65·2	203·2		38·2		−·0182	−·0040	−49·7	+12·0	−·0049
14	168·5	208·2		25·9		−·0178	−·0052	+24·9	+10·7	−·0060
20	143·1	277·9		44·9		−·0126	−·0034	+ 6·6	+ 7·8	−·0040
26	111·7	207·8		62·3		−·0178	−·0018	−15·9	+13·5	−·0028
32	152·6	233·2		32·9		−·0159	−·0046	+13·6	+ 9·6	−·0053
38	153·6	99·6		41·6		−·0257	−·0038	+14·3	+18·5	−·0052
44	151·8	265·8		50·4		−·0134	−·0029	+13·0	+ 8·9	−·0036
50	160·1	290·0		37·8		−·0116	−·0041	+18·9	+ 6·3	−·0046
56	146·1	354·4		56·3		−·0068	−·0024	+ 8·9	+ 3·7	−·0027
20 02	166·3	412·8	53·5	32·9	55·4	−·0025	−·0046	+23·4	− 1·8	−·0045
08	130·2	263·7		37·2		−·0135	−·0042	− 2·7	+ 7·9	−·0048
14	153·2	234·2		18·6		−·0157	−·0059	+13·8	+ 8·3	−·0065
20	150·3	272·9		14 3		−·0129	−·0064	+11·6	+ 5·5	−·0068
26	117·6	199·5		41·9		−·0183	−·0038	−12·1	+12·3	−·0047
32	151·6	226·7		45·2		−·0164	−·0035	+12·2	+10·9	−·0043
38	167·8	280·1		45·2		−·0124	−·0035	+23·8	+ 7·5	−·0041
44	166·9	313·0		58·0		−·0100	−·0023	+22·9	+ 6·5	−·0028
50	174·4	349·7		50·0		−·0073	−·0031	+28·3	+ 3·6	−·0034
56	145·8	369·1		62·9		−·0059	−·0019	+ 7·6	+ 3·4	−·0022
21 02	128·5	364·8	52·8	70·0	55·2	−·0062	−·0012	− 5·0	+ 4·2	−·0015
08	127·7	359·0		70·0		−·0067	−·0012	− 5·6	+ 4·7	−·0016
14	161·6	358·3		66·6		−·0067	−·0016	+18·6	+ 4·3	−·0019
20	164·2	389·1		70·0		−·0045	−·0013	+20·4	+ 2·7	−·0015
26	166·5	408·3		70·4		−·0031	−·0012	+22·0	+ 1·6	−·0013
32	162·2	381·4		66·2		−·0051	−·0016	+18·7	+ 3·0	−·0018
38	162·0	352·2		63·1		−·0073	−·0019	+18·5	+ 4·6	−·0022
44	165·1	355·7		64·7		−·0070	−·0018	+20·7	+ 4·4	−·0021
50	165·8	361·1		65·2		−·0066	−·0018	+21·1	+ 4·1	−·0021
56	162·3	329·3		66·9		−·0090	−·0016	+18·4	+ 6·3	−·0021

* The — sign is here properly prefixed.

1842.
Toronto.

April 14—15.

OBSERVATIONS OF THE MAGNETOMETERS. The Declination was observed 2m. before, and the V. F. 2m. after the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
14 22 02	167·3	360·3	52·5	67·0	54·2	−·0067	−·0016	+22·0	+ 4·3	−·0019
08	160·6	349·8		65·8		−·0075	−·0017	+17·2	+ 4·9	−·0021
14	158·0	360·6		68·0		−·0067	−·0016	+15·3	+ 4·3	−·0019
20	144·8	308·7		47·7		−·0106	−·0035	+ 5·9	+ 6·0	−·0040
26	126·1	250·7		44·6		−·0149	−·0038	− 7·6	+ 9·4	−·0045
32	123·5	263·8		56·2		−·0139	−·0027	− 9·5	+ 9·5	−·0034
38	127·0	279·2		45·1		−·0128	−·0037	− 6·9	+ 7·7	−·0043
44	128·2	254·1		39·1		−·0147	−·0043	− 6·0	+ 8·8	−·0050
50	126·9	211·3		39·6		−·0178	−·0043	− 6·9	+11·4	−·0052
56	124·5	298·9		59·6		−·0114	−·0024	− 8·5	+ 7·6	−·0030
23 02	125·9	294·1	51·8	64·6	53·5	−·0117	−·0020	− 7·6	+ 8·2	−·0026
08	119·8	343·1		71·6		−·0082	−·0014	−11·9	+ 5·8	−·0018
14	121·0	356·4		68·0		−·0072	−·0017	−11·0	+ 4·7	−·0021
20	125·4	376·2		69·4		−·0057	−·0016	− 7·8	+ 3·5	−·0019
26	128·9	364·9		59·0		−·0066	−·0026	− 5·2	+ 3·4	−·0029
32	135·2	389·9		61·0		−·0048	−·0024	− 0·7	+ 2·0	−·0026
38	135·5	397·7		62·0		−·0042	−·0023	− 0·5	+ 1·6	−·0024
44	139·2	423·9		68·9		−·0023	−·0017	+ 2·3	+ 0·5	−·0017
50	140·9	442·9		71·5		−·0009	−·0015	+ 3·5	− 0·5	−·0015
56	133·6	437·7		73·8		−·0013	−·0013	− 1·7	0·0	·0000
15 00 02	141·2	441·1	51·0	75·3	52·5	−·0011	−·0012	+ 3·7	− 0·1	−·0012
08	143·3	443·4		75·9		−·0009	−·0011	+ 5·2	− 0·2	−·0011
14	144·0	448·9		79·9		−·0005	−·0008	+ 5·6	− 0·3	−·0008
20	142·9	451·4		82·5		−·0003	−·0005	+ 4·9	− 0·2	−·0005
26	141·7	450·3		85·5		−·0004	−·0003	+ 4·0	+ 0·1	−·0003
32	140·7	445·1		86·8		−·0007	−·0002	+ 3·3	+ 0·4	−·0002
38	140·7	437·9		86·8		−·0013	−·0002	+ 3·3	+ 0·9	−·0003
44	143·2	436·3		87·4		−·0014	−·0001	+ 4·9	+ 1·1	−·0002
50	146·3	433·8		87·4		−·0016	−·0001	+ 7·2	+ 1·3	−·0002
56	146·2	437·9		87·5		−·0013	−·0001	+ 7·1	+ 1·0	−·0002
01 02	146·3	430·3	50·8	88·2	52·0	−·0018	−·0001	+ 7·1	+ 1·4	−·0002
08	147·5	431·5		88·3		−·0017	−·0001	+ 8·0	+ 1·4	−·0002
14	148·8	433·8		89·9		−·0016	+·0001	+ 8·8	+ 1·4	·0000
20	147·6	426·4		88·0		−·0021	−·0001	+ 8·0	+ 1·7	−·0002
26	147·6	432·3		89·6		−·0017	·0000	+ 7·9	+ 1·4	−·0001
32	144·3	430·0		89·8		−·0019	·0000	+ 5·5	+ 1·6	−·0001
38	143·9	424·4		90·4		−·0023	+·0001	+ 5·2	+ 2·0	+·0001
44	145·9	432·3		92·0		−·0017	+·0002	+ 6·6	+ 1·6	+·0001
50	144·5	438·5		89·9		−·0012	·0000	+ 5·6	+ 1·0	−·0001
56	146·7	431·4		92·8		−·0017	+·0003	+ 7·1	+ 1·7	+·0002
02 02	146·3	438·1	50·6	93·6	51·5	−·0012	+·0004	+ 6·9	+ 1·4	+·0003
08	144·6	436·4		93·4		−·0013	+·0004	+ 5·8	+ 1·4	+·0003
14	144·9	434·2		89·8		−·0014	·0000	+ 6·2	+ 1·2	−·0001
20	137·1	446·5		91·3		−·0004	+·0002	+ 0·6	+ 0·5	+·0002
26	141·3	436·0		92·8		−·0012	+·0003	+ 3·8	+ 1·3	+·0002
32	140·7	431·0		93·0		−·0015	+·0003	+ 3·5	+ 1·5	+·0002
38	147·6	409·3		93·0		−·0030	+·0003	+ 8·5	+ 2·8	+·0001
44	140·2	409·2		92·6		−·0030	+·0003	+ 3·4	+ 2·8	+·0001
50	139·1	411·0		92·1		−·0028	+·0003	+ 2·8	+ 2·6	+·0001
56	140·9	408·0		91·4		−·0030	+·0002	+ 4·2	+ 2·7	·0000
03 02	138·9	411·2	51·6	92·8	52·0	−·0027	+·0003	+ 2·9	+ 2·5	+·0001
08	136·8	410·2		92·6		−·0027	+·0003	+ 1·5	+ 2·5	+·0001
14	136·1	411·6		92·6		−·0026	+·0003	+ 1·1	+ 2·5	+·0001
20	133·4	411·4		91·4		−·0025	+·0002	− 0·6	+ 2·3	·0000
26	131·9	408·4		91·4		−·0027	+·0002	− 1·5	+ 2·5	·0000
32	129·5	403·4		91·4		−·0030	+·0002	− 3·2	+ 2·7	·0000
38	129·4	404·4		90·9		−·0029	+·0002	− 3·1	+ 2·6	·0000
44	128·7	398 4		90·6		−·0033	+·0001	− 3·5	+ 2·9	−·0001
50	128·3	397·6		91·4		−·0033	+·0002	− 3·6	+ 3·0	·0000
56	126·5	397·5		90·6		−·0033	+·0002	− 4·7	+ 3·0	·0000
04 02	124·9	391·8	52·2	90·5	52·0	−·0037	+·0001	− 5·8	+ 3·2	−·0004
08	125·8	394·4		91·1		−·0035	+·0002	− 4·9	+ 3·1	·0000

1842.
Toronto.

April 15.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 2m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
						$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
15 04 14	127·1	396·2		91·4		−·0033	+·0003	− 3·7	+ 3·1	+·0001
20	125·6	397·8		91·1		−·0032	+·0002	− 4·5	+ 3·0	+·0001
26	124·8	394·8		90·7		−·0034	+·0002	− 4·9	+ 3·1	·0000
32	125·7	394·9		90·7		−·0034	+·0002	− 4·0	+ 3·1	·0000
38	125·3	395·7		90·7		−·0033	+·0002	− 4·0	+ 3·0	·0000
44	124·1	399·7		91·2		−·0030	+·0003	− 4·7	+ 2·8	+·0001
50	126·4	393·4		90·4		−·0035	+·0002	− 2·8	+ 3·1	·0000
56	124·5	398·9		90·4		−·0031	+·0002	− 3·9	+ 2·8	·0000
05 02	126·0	405·0	53·3	91·7	53·0	−·0026	+·0003	− 2·6	+ 2·4	+·0001
08	125·5	406·7		91·7		−·0025	+·0004	− 2·8	+ 2·5	+·0002
14	124·1	405·0		91·4		−·0026	+·0003	− 3·5	+ 2·5	+·0001
20	123·3	402·4		90·6		−·0029	+·0003	− 3·8	+ 2·7	+·0001
26	124·0	411·1		90·7		−·0022	+·0003	− 3·1	+ 2·1	+·0001
32	125·3	412·3		90·7		−·0021	+·0003	− 1·8	+ 2·0	+·0001
38	126·1	414·3		90·7		−·0020	+·0003	− 1·1	+ 1·9	+·0001
44	126·3	419·7		91·5		−·0016	+·0004	− 0·7	+ 1·7	+·0003
50	126·0	412·1		90·0		−·0022	+·0002	− 0·7	+ 2·0	·0000
56	126·0	411·7		90·6		−·0022	+·0003	− 0·4	+ 2·1	+·0001
06 02	128·2	425·0	53·5	92·1	53·5	−·0013	+·0004	+ 1·3	+ 1·4	+·0003
08	122·2	424 9		91·9		−·0013	+·0004	− 2·9	+ 1·4	+·0003
14	122·4	422·9		90·8		−·0015	+·0003	− 2·8	+ 1·5	+·0002
20	121·5	414·6		90·9		−·0021	+·0003	− 3·3	+ 2·0	+·0001
26	123·0	422·4		91·9		−·0015	+·0004	− 2·2	+ 1·6	+·0003
32	124·7	424·9		91·7		−·0014	+·0004	− 0·8	+ 1·5	+·0003
38	122·9	417·3		91·9		−·0019	+·0004	− 2·2	+ 1·9	+·0002
44	120·8	413·4		91·9		−·0022	+·0004	− 3·6	+ 2·2	+·0002
50	120·9	416·1		92·4		−·0021	+·0004	− 3·5	+ 2·1	+·0002
56	122·3	416·1		91·3		−·0021	+·0003	− 2·5	+ 2·0	+·0001
07 02	122·1	414·7	54·7	92·8	54·2	−·0022	+·0004	− 2·6	+ 2·2	+·0002
08	122·3	417·7		93·4		−·0020	+·0005	− 2·3	+ 2·1	+·0003
14	122·6	420·0		94·0		−·0019	+·0005	− 2·0	+ 2·0	+·0003
20	123·2	426·4		95·0		−·0015	+·0006	− 1·5	+ 1·8	+·0005
26	123·8	427·2		95·9		−·0015	+·0007	− 1·1	+ 1·9	+·0006
32	124·3	433·6		96·1		−·0010	+·0007	− 0·6	+ 1·4	+·0006
38	125·0	431·1		97·1		−·0013	+·0008	− 0·1	+ 1·8	+·0007
44	127·0	434·1		98·9		−·0011	+·0010	+ 1·4	+ 1·8	+·0009
50	129·7	450·5		100·5		+·0007	+·0011	+ 3·4	+ 0·3	+·0011
56	130·1	455·5		100·4		+·0004	+·0011	+ 3·7	+ 0·6	+·0011
08 00	131·0	459·3	54·7	100·4	54·3	+·0006	+·0011	+ 4·4	+ 0·4	+·0001
10 00	131·6	454·2	54·3	99·8	54·0	−·0004	+·0009	+ 3·9	+ 1·1	+·0008
12 00	129·0	453·7	56·5	97·8	54·0	+·0004	+·0007	− 0·4	+ 0·2	+·0007
14 02	137·5	414·9	54·0	80·7	54·7	−·0026	−·0007	+ 4·9	+ 1·6	−·0008
14	146·5	401·5		72·4		−·0036	−·0014	+11·4	+ 1·9	−·0015
20	142·0	396·2		71·3		−·0039	−·0015	+ 8·0	+ 2·0	−·0017
26	140·0	371·7		78·6		−·0057	−·0008	+ 6·6	+ 4·1	−·0011
32	165·6	414·9		77·4		−·0025	−·0010	+25·0	+ 1·3	−·0011
38	158·6	434·9		72·0		−·0010	−·0015	+19·8	− 0·4	−·0015
44	139·3	414·8		85·7		−·0025	−·0002	+ 6·0	+ 1·9	−·0004
50	153·9	426·2		88·0		− 0016	+·0001	+16·4	+ 1·4	·0000
56	154·7	438·4		85·4		−·0007	−·0002	+17·0	+ 0·4	−·0002
15 02	143·2	451·3	54·0	84·1	54·4	+·0003	−·0003	+ 8·6	− 0·5	−·0003
08	125·4	432·1		89·8		−·0011	+·0003	− 4·2	+ 1·2	+·0002
14	123·1	426·3		93·1		−·0016	+·0006	− 5·9	+ 1·9	+·0005
20	125·7	408·4		95·9		−·0029	+·0008	− 4·1	+ 3·1	+·0006
26	142·0	408·0		94·9		−·0029	+·0008	+ 7·6	+ 3·1	+·0006
32	147·1	405·9		88·2		−·0031	+·0002	+11·2	+ 2·8	·0000
38	148·8	423·8		84·8		−·0017	−·0002	+12·4	+ 1·3	−·0003
44	169·0	453·2		75·0		+·0005	−·0011	+26·9	− 1·4	−·0010
50	150·2	431·2		55·1		−·0012	−·0029	+13·4	− 1·4	−·0028
56	128·8	415·0		52·2		−·0024	−·0032	− 2·0	− 0·7	−·0032

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April 15.

OBSERVATIONS OF THE MAGNETOMETERS. The Declination was observed 2m. before, and the V. F. 2m. after the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
15 16 02	113·1	397·7	53·4	44·2	54·4	−·0037	−·0039	−13·4	− 0·2	−·0039
08	94·0	379·9		53·9		−·0050	−·0030	−27·2	+ 1·7	−·0031
14	107·9	375·6		60·9		−·0053	−·0023	−17·4	+ 2·5	−·0025
20	119·3	421·3		58·4		−·0020	−·0025	− 9·2	− 0·3	−·0025
26	103·1	368·4		76·3		−·0059	−·0009	−21·0	+ 4·2	−·0012
32	134·0	378·6		76·2		−·0052	−·0009	+ 1·1	+ 3·6	−·0012
38	157·9	405·0		73·0		−·0033	−·0011	+18·3	+ 1·9	−·0012
44	154·3	414·8		72·1		−·0026	−·0012	+15·6	+ 1·2	−·0013
50	146·0	395·2		70·7		−·0041	−·0013	+ 9·6	+ 2·4	−·0015
56	145·4	385·2		73·7		−·0048	−·0010	+ 9·0	+ 3·2	−·0012
17 02	147·6	388·7	53·0	82·3	54·2	−·0046	−·0002	+10·5	+ 3·7	−·0005
08	149·2	367·6		73·6		−·0062	−·0010	+11·6	+ 4·4	−·0013
14	147·2	368·3		78·3		−·0061	−·0006	+10·1	+ 4·7	−·0010
20	138·5	344·3		65·1		−·0079	−·0018	+ 3·7	+ 5·2	−·0022
26	127·2	322·9		54·0		−·0095	−·0028	− 4·5	+ 5·7	−·0032
32	131·4	321·6		64·5		−·0097	−·0018	− 1·5	+ 6·7	−·0023
38	172·8	378·7		55·3		−·0054	−·0026	+28·2	+ 2·4	−·0028
44	179·2	369·1		38·7		−·0062	−·0042	+32·7	+ 1·7	−·0043
50	155·0	352·4		36·1		−·0074	−·0044	+15·1	+ 2·5	−·0046
56	149·0	363·9		39·5		−·0066	−·0041	+10·7	+ 2·1	−·0043
18 02	137·1	332·2	53·0	50·6	54·4	−·0090	−·0030	+ 2·0	+ 5·1	−·0034
08	141·8	323·0		52·9		−·0096	−·0028	+ 5·4	+ 5·8	−·0032
14	150·5	332·7		47·2		−·0089	−·0033	+11·7	+ 4·7	−·0037
20	140·2	276·2		21·3		−·0131	−·0057	+ 4·4	+ 6·3	−·0062
26	102·9	190·0		28·7		−·0195	−·0051	−22·4	+12·2	−·0060
32	99·6	189·6		17·6		−·0195	−·0061	−24·9	+11·3	−·0070
38	85·3	142·0		−7·9[a]		−·0230	−·0085	−35·2	+12·3	−·0094
44	68·8	157·7		20·5		−·0219	−·0058	−47·1	+13·6	−·0068
50	70·9	72·2		53·1		−·0282	−·0028	−45·6	+21·5	−·0044
56	84·7	120·6		51·0		−·0246	−·0030	−35·5	+18·3	−·0044
19 02	117·3	149·4	52·4	31·2	54·2	−·0224	−·0049	−12·0	+14·8	−·0060
08	126·7	191·0		27·8		−·0194	−·0052	− 5·2	+12·0	−·0061
14	132·8	212·8		33·1		−·0177	−·0047	− 0·8	+11·0	−·0055
20	113·9	271·0		45·8		−·0134	−·0035	−14·4	+ 8·4	−·0041
26	102·8	278·5		50·0		−·0129	−·0031	−22·4	+ 8·3	−·0037
32	110·7	283·4		54·5		−·0125	−·0027	−16·7	+ 8·3	−·0033
38	111·7	275·9		54·7		−·0131	−·0027	−15·9	+ 8·8	−·0034
44	119·7	272·1		54·0		−·0133	−·0028	−10·2	+ 8·9	−·0035
50	129·2	259·9		57·0		−·0142	−·0025	− 3·3	+ 9·9	−·0033
56	146·7	265·2		57·6		−·0138	−·0025	+ 9·4	+ 9·6	−·0032
20 02	155·5	304·5	51·8	57·2	53·7	−·0109	−·0025	+15·7	+ 7·1	−·0030
08	152·1	303·0		54 8		−·0111	−·0027	+13·1	+ 7·1	−·0032
14	153·6	293·7		60·2		−·0117	−·0022	+14·1	+ 8·0	−·0028
20	169·4	306·6		64·9		−·0108	−·0018	+25·3	+ 7·6	−·0024
26	163·7	336·4		61·3		−·0086	−·0021	+21·2	+ 5·5	−·0025
32	159·8	351·9		64·0		−·0075	−·0019	+18·2	+ 4·7	−·0023
38	155·7	351·1		65·9		−·0075	−·0017	+15·1	+ 4·9	−·0021
44	154·1	347·3		62·1		−·0078	−·0020	+13·9	+ 4·9	−·0024
50	153·6	356·3		67·6		−·0072	−·0015	+13·4	+ 4·8	−·0019
56	157·6	349·3		65·3		−·0077	−·0017	+16·2	+ 5·1	−·0021
21 02	160·1	375·1	51·5	71·6	54·4	−·0058	−·0011	+17·9	+ 4·0	−·0014
08	159·0	373·4		73·7		−·0059	−·0010	+17·0	+ 4·1	−·0013
14	160·9	404·8		80·6		−·0036	−·0004	+18·2	+ 2·7	−·0006
20	161·0	407·9		82·3		−·0034	−·0002	+18·1	+ 2·7	−·0004
26	158·0	423·2		87·5		−·0023	+·0003	+15·9	+ 2·2	+·0001
32	157·1	431·9		89·9		−·0017	+·0005	+15·1	+ 1·9	+·0004
38	153·1	437·3		92·3		−·0013	+·0007	+12·1	+ 1·7	+·0006
44	152·4	439·0		92·7		−·0011	+·0007	+11·5	+ 1·5	+·0006
50	151·4	441·0		93·7		−·0010	+·0008	+10·7	+ 1·5	+ 0007
56	151·8	442·0		92·7		−·0009	+·0007	+10·9	+ 1·4	+·0006
22 00	149·9	442·0	51·4	92·7	53·0	−·0010	+·0006	+ 9·5	+ 1·4	+·0005

[a] The — sign is here properly prefixed.

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Cape of Good Hope.

April 14.

For Mean Monthly Readings *see* page 24.

CAPE OF GOOD HOPE, 1842. APRIL 14—15.

OBSERVATIONS OF THE MAGNETOMETERS.

The V. F. was observed 2m. before, and the H. F. 2m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
						$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
14 17 00	50·9	85·2	66·5	55·6	66·5	+·0001	−·0001	+ 4·7	− 0·3	·0000
06	51·0	84·4		57·3		·0000	+·0001	+ 4·7	− 0·2	+·0001
12	53·0	83·0		58·3		−·0003	+·0002	+ 6·2	− 0·8	·0000
18	53·0	82·0		59·4		−·0004	+·0003	+ 6·3	− 1·2	+·0001
24	53·2	81·2		59·8		−·0006	+·0003	+ 6·5	− 1·5	·0000
30	53·8	82·2		60·6		−·0004	+·0004	+ 6·9	− 1·3	+·0001
36	54·4	83·3		59·1		−·0002	+·0003	+ 7·4	− 0·8	+·0001
42	54·6	84·0		58·2		−·0001	+·0002	+ 7·5	− 0·5	+·0001
48	55·0	84·2		57·6		−·0001	+·0001	+ 7·9	− 0·3	·0000
54	54·3	84·3		58·3		·0000	+·0002	+ 7·4	− 0·3	+·0001
18 00	56·0	84·5	66·7	57·8	66·4	·0000	+·0001	+ 8·6	+ 0·2	+·0001
06	56·7	83·2		55·6		−·0003	−·0002	+ 9·2	+ 0·2	−·0002
12	57·0	82·7		55·9		−·0003	−·0001	+ 9·5	+ 0·3	−·0002
18	57·8	82·1		55·4		−·0005	−·0002	+10·1	+ 0·5	−·0003
24	58·0	81·5		54·8		−·0006	−·0003	+10·4	+ 0·5	−·0004
30	56·9	81·2		56·7		−·0006	−·0001	+ 9·6	+ 0·8	−·0003
36	56·0	79·0		58·2		−·0010	·0000	+ 9·0	+ 1·7	−·0004
42	53·8	75·9		61·0		−·0016	+·0003	+ 7·4	+ 3·1	−·0004
48	52·0	75·2		64·8		−·0018	+·0007	+ 6·1	+ 4·1	−·0002
54	50·0	72·7		68·3		−·0022	+·0011	+ 4·7	+ 5·4	−·0001
19 00	48·0	71·4	66·9	70·4	66·7	−·0024	+·0013	+ 3·2	+ 6·1	·0000
06	45·1	70·7		76·9		−·0026	+·0020	+ 1·2	+ 7·6	+·0004
12	47·3	74·6		76·3		−·0019	+·0019	+ 3·0	+ 6·3	−·0005
18	49·2	75·4		72·6		−·0018	+·0015	+ 4·6	+ 5·4	−·0003
24	47·3	77·9		71·0		−·0013	+·0013	+ 3·3	+ 4·3	−·0004
30	47·7	77·8		79·2		−·0014	+·0012	+ 3·6	+ 4·3	−·0003
36	46·9	77·4		69·5		−·0014	+·0011	+ 3·2	+ 4·1	−·0002
42	48·0	75·6		68·8		−·0018	+·0010	+ 4·2	+ 4·6	·0000
48	46·7	74·9		71·0		−·0019	+·0012	+ 3·4	+ 5·1	+·0001
54	46·2	73·3		71·4		−·0022	+·0012	+ 3·2	+ 5·6	·0000
20 00	45·9	73·6	66·8	71·4	66·8	−·0022	+·0012	+ 3·1	+ 5·6	·0000
06	46·1	75·0		71·2		−·0019	+·0012	+ 3·4	+ 5·1	+·0001
12	47·7	75·8		69·0		−·0017	+·0009	+ 4·7	+ 4·3	·0000
18	47·8	76·2		67·4		−·0017	+·0008	+ 4·9	+ 4·1	−·0001
24	47·1	76·9		66·9		−·0015	+·0007	+ 4·5	+ 3·6	−·0001
30	46·3	77·4		67·1		−·0014	+·0008	+ 4·1	+ 3·6	·0000
36	45·8	77·7		67·1		−·0014	+·0008	+ 3·8	+ 3·6	·0000
42	45·2	78·0		67·1		−·0013	+·0008	+ 3·5	+ 3·5	+·0001
48	44·8	78·3		67·1		−·0012	+·0008	+ 3·3	+ 3·3	+·0001
54	44·0	79·0		67·5		−·0010	+·0009	+ 2·9	+ 3·1	+·0002
21 00	43·4	77·6	67·0	67·5	67·0	−·0013	+·0009	+ 2·6	+ 3·6	+·0001
22 00	42·5	69·9	67·3	66·6	67·2	−·0025	+·0012	+ 1·6	+ 6·1	−·0001
06	42·2	68·1		67·8		−·0027	+·0014	+ 1·2	+ 6·8	−·0001
12	41·9	66·4		68·8		−·0030	+·0016	+ 0·8	+ 7·6	·0000
18	41·1	66·2		69·2		−·0030	+·0016	+ 0·1	+ 7·6	·0000
24	40·7	64·8		68·6		−·0032	+·0016	− 0·4	+ 7·9	−·0001
30	40·2	65·2		68·6		−·0031	+·0017	− 0·9	+ 7·9	·0000
36	40·3	66·6		67·8		−·0028	+·0016	− 1·0	+ 7·3	·0000
42	41·0	64·3		62·0		−·0032	+·0010	− 0·6	+ 6·9	−·0005
48	40·8	61·7		64·5		−·0036	+·0013	− 0·9	+ 8·1	−·0005
54	40·8	59·1		66·2		−·0041	+·0015	− 1·1	+ 9·2	−·0005
23 00	41·1	59·9	67·6	67·3	67·5	−·0039	+·0017	− 1·0	+ 9·2	−·0003
06	42·0	60·1		66·9		−·0038	+·0017	− 0·5	+ 9·1	−·0003
12	42·6	60·5		65·3		−·0037	+·0015	− 0·2	+ 8·6	−·0004
18	43·1	60·9		63·8		−·0036	+·0014	0·0	+ 8·2	−·0004
24	44·1	61·8		62·4		−·0035	+·0013	+ 0·6	+ 7·9	−·0004
30	44·9	61·5		60·1		−·0035	+·0011	+ 1·1	+ 7·6	−·0005
36	45·2	62·5		59·5		−·0033	+·0010	+ 1·1	+ 7·1	−·0005

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Cape of Good Hope.

April 14—15.

OBSERVATIONS OF THE MAGNETOMERS. The V. F. was observed 2m. before, and the H. F. 2m. after the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
14 23 42	45·7	63·2		58·4		−·0032	+·0009	+ 1·4	+ 6·8	−·0006
48	45·8	64·0		57·4		−·0030	+·0008	+ 1·2	+ 6·3	−·0006
54	45·9	65·0		56·9		−·0028	+·0008	+ 1·1	+ 5·9	−·0005
15 00 00	45·5	65·0	67·9	56·5	67·7	−·0028	+·0008	+ 0·7	+ 5·9	−·0005
06	45·2	65·1		57·0		−·0028	+·0008	+ 0·4	+ 5·9	−·0005
12	44·8	65·6		57·0		−·0027	+·0008	+ 0·1	+ 5·8	−·0005
18	44·8	66·1		57·0		−·0026	+·0007	0·0	+ 5·4	−·0005
24	44·6	66·7		56·8		−·0024	+·0007	− 0·2	+ 5·1	−·0004
30	44·3	67·1		56·8		−·0024	+·0006	− 0·5	+ 4·9	−·0005
36	44·8	67·5		56·2		−·0023	+·0005	− 0·2	+ 4·6	−·0005
42	45·0	68·4		55·3		−·0021	+·0004	0·0	+ 4·1	−·0005
48	44·8	68·0		55·3		−·0022	+·0004	− 0·2	+ 4·3	−·0005
54	44·9	67·8		55·0		−·0022	+·0003	− 0·2	+ 4·1	−·0006
01 00	44·8	67·1	68·2	55·4	68·0	−·0023	+·0003	− 0·3	+ 4·3	−·0006
06	44·7	67·8		56·1		−·0022	+·0004	− 0·3	+ 4·3	−·0005
12	45·0	68·0		56·1		−·0022	+·0003	− 0·1	+ 4·1	−·0006
18	44·6	68·7		55·4		−·0021	+·0002	− 0·3	+ 3·8	−·0006
24	44·8	67·7		56·2		−·0023	+·0003	− 0·1	+ 4·3	−·0006
30	44·9	66·5		57·2		−·0025	+·0004	+ 0·1	+ 4·8	−·0006
36	44·7	65·9		57·7		−·0026	+·0004	− 0·1	+ 4·9	−·0007
42	44·2	66·2		58·4		−·0026	+·0004	− 0·4	+ 4·9	−·0007
48	44·0	66·8		58·4		−·0025	+·0004	− 0·5	+ 4·8	−·0006
54	44·4	67·1		58·4		−·0024	+·0004	− 0·2	+ 4·6	−·0006
02 00	44·0	67·0	67·9	58·5	68·2	−·0025	+·0003	− 0·4	+ 4·6	−·0007
06	43·6	67·6		59·0		−·0023	+·0004	− 0·6	+ 4·4	−·0005
12	43·6	67·9		59·1		−·0023	+·0004	− 0·6	+ 4·4	−·0006
18	42·2	64·9		59·1		−·0028	+·0004	− 1·6	+ 5·3	−·0007
24	41·4	64·1		63·9		−·0029	+·0009	− 2·1	+ 6·3	−·0005
30	42·8	64·8		64·1		−·0027	+·0009	− 1·0	+ 5·9	−·0004
36	43·8	66·8		62·7		−·0024	+·0007	− 0·2	+ 5·1	−·0004
42	44·0	65·9		60·9		−·0025	+·0005	− 0·0	+ 4·9	−·0006
48	43·3	65·5		61·4		−·0025	+·0005	− 0·5	+ 4·9	−·0006
54	43·2	66·0		62·6		−·0024	+·0007	− 0·5	+ 5·1	−·0004
03 00	43·2	65·7	68·7	62·2	68·5	−·0025	+·0006	− 0·5	+ 5·1	−·0005
06	42·7	64·6		62·8		−·0027	+·0007	− 0·8	+ 5·6	−·0005
12	42·4	63·9		64·0		−·0028	+·0008	− 1·0	+ 5·9	−·0005
18	42·3	63·0		65·0		−·0029	+·0009	− 1·0	+ 6·3	−·0005
24	42·1	62·3		65·7		−·0031	+·0009	− 1·1	+ 6·6	−·0005
30	42·0	61·3		66·4		−·0032	+·0010	− 1·1	+ 6·9	−·0005
36	42·0	60·7		67·8		−·0033	+·0011	− 1·1	+ 7·3	−·0005
42	42·0	59·2		67·6		−·0036	+·0011	− 1·0	+ 7·7	−·0006
48	41·8	58·8		69·1		−·0037	+·0012	− 1·1	+ 8·1	−·0006
54	41·0	58·0		69·9		−·0038	+·0013	− 1·7	+ 8·4	−·0005
04 00	40·2	58·0	68·9	71·6	68·6	−·0038	+·0015	− 2·2	+ 8·7	−·0004
06	40·1	58·5		72·4		−·0037	+·0016	− 2·3	+ 8·7	−·0003
12	39·8	58·8		72·4		−·0036	+·0016	− 2·5	+ 8·6	−·0003
18	39·8	58·4		72·1		−·0037	+·0015	− 2·5	+ 8·6	−·0004
24	39·8	58·6		72·1		−·0036	+·0015	− 2·5	+ 8·4	−·0003
30	40·0	59·2		71·5		−·0035	+·0015	− 2·3	+ 8·2	−·0003
36	40·5	59·2		70·6		−·0035	+·0014	− 1·9	+ 8·1	−·0004
42	40·5	59·2		69·5		−·0035	+·0012	+ 1·9	+ 7·7	−·0005
48	40·9	60·0		69·2		−·0034	+·0012	− 1·6	+ 7·6	−·0004
54	40·4	60·2		68·8		−·0033	+·0011	− 2·0	+ 7·3	−·0005
05 00	40·3	60·8	68·9	68·5	68·8	−·0032	+·0011	− 2·0	+ 7·1	−·0004
06	40·2	61·1		67·9		−·0031	+·0011	− 2·1	+ 6·9	−·0004
12	40·2	60·4		67·5		−·0032	+·0010	− 2·1	+ 6·9	−·0005
18	39·8	59·5		67·5		−·0034	+·0010	− 2·3	+ 7·3	−·0006
34	39·6	59·6		67·9		−·0033	+·0011	− 2·5	+ 7·3	−·0005
30	39·8	60·1		67·9		−·0032	+·0011	− 2·3	+ 7·1	−·0004
36	39·1	60·5		67·6		−·0031	+·0010	− 2·9	+ 6·8	−·0005
42	38·9	61·0		67·5		−·0030	+·0010	− 3·0	+ 6·6	−·0004
48	38·9	61·1		67·0		−·0030	+·0010	− 2·9	+ 6·6	−·0004

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OBSERVATIONS OF THE MAGNETOMETERS.

The V. F. was observed 2m. before, and the H. F. 2m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
						$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′ ″	Parts of Total Force.
15 05 54	39·0	61·0		66·3		−·0030	+·0009	− 2·9	+ 6·4	−·0005
06 00	39·0	61·3	69·3	65·8	68·9	−·0029	+·0008	− 2·9	+ 6·1	−·0005
06	38·5	60·5		65·8		−·0030	+·0008	− 3·2	+ 6·3	−·0006
12	38·5	59·1		66·2		−·0033	+·0009	− 3·3	+ 6·9	−·0006
18	38·5	58·1		66·2		−·0034	+·0009	− 3·3	+ 7·1	−·0006
24	38·5	58·0		67·5		−·0034	+·0010	− 3·3	+ 7·3	−·0006
30	38·9	58·4		67·5		−·0033	+·0011	− 3·1	+ 7·3	−·0005
36	38·5	58·1		67·2		−·0034	+·0010	− 3·4	+ 7·3	−·0006
42	38·0	58·0		68·3		−·0034	+·0011	− 3·8	+ 7·4	−·0005
48	38·0	58·6		68·4		−·0033	+·0011	− 3·8	+ 7·3	−·0005
54	37·8	59·0		68·0		−·0032	+·0011	− 4·0	+ 7·1	−·0004
07 00	37·6	59·0	69·4	67·3	69·0	−·0032	+·0010	− 4·1	+ 6·9	−·0005
08 00	39·8	61·3	69·1	66·2	68·7	−·0029	+·0010	− 2·5	+ 6·5	−·0004
18	36·5	—		—		—	—	− 5·0	—	—
24	36·4	67·2		64·9		−·0018	+·0008	− 5·0	+ 4·3	−·0001
30	38·8	66·5		60·5		−·0020	+·0003	− 3·2	+ 3·8	−·0005
36	39·7	68·2		58·6		−·0017	+·0001	− 2·6	+ 3·0	−·0005
42	41·3	67·2		55·9		−·0018	−·0002	− 1·4	+ 2·6	−·0008
48	41·2	64·0		54·9		−·0024	−·0003	− 1·4	+ 3·5	−·0010
54	40·0	66 6		58·4		−·0019	·0000	− 2·3	+ 3·1	−·0007
09 00	39·1	68·8	69·0	59·0	68·8	−·0015	+·0001	− 3·0	+ 2·6	−·0005
06	37·3	70·4		60·6		−·0012	+·0003	− 4·4	+ 2·5	−·0002
12	37·0	71·2		60·3		−·0011	+·0002	− 4·6	+ 2·1	−·0003
18	37·0	72·6		59·8		−·0009	+·0002	− 4·5	+ 1·8	−·0002
24	38·0	73·8		57·4		−·0006	−·0001	− 3·8	+ 0·8	−·0003
30	39·7	73·8		54·2		−·0007	−·0004	− 2·5	+ 0·5	−·0005
36	40·8	72·2		51·1		−·0009	−·0008	− 1·7	+ 0·2	−·0008
42	41·0	70·3		51·5		−·0013	−·0007	− 1·5	+ 1·0	−·0009
48	40·2	69·8		54·1		−·0014	−·0004	− 2·0	+ 1·7	−·0008
54	40·2	69·7		55·1		−·0014	−·0003	− 2·0	+ 1·8	−·0007
10 00	40·7	68·9	69·0	55·2	68·8	−·0015	−·0003	− 1·7	+ 2·0	−·0007
06	40·2	68·2		56·1		−·0017	−·0002	− 2·0	+ 2·5	−·0007
12	40·1	68·3		57·3		−·0017	−·0001	− 2·1	+ 2·6	−·0007
18	40·2	68·6		57·3		−·0016	−·0001	− 2·0	+ 2·5	−·0006
24	39·9	68·2		57·6		−·0017	·0000	− 2·3	+ 2·8	−·0006
30	39·8	68·2		58·2		−·0018	+·0001	− 2·4	+ 3·1	−·0006
36	39·8	68·2		58·1		−·0018	·0000	− 2·4	+ 2·0	−·0006
42	39·8	68·2		58·9		−·0018	+·0001	− 2·4	+ 3·1	−·0006
48	39·8	69·0		58·6		−·0017	+·0001	− 2·4	+ 3·0	−·0005
54	40·2	69·2		58·4		−·0017	+·0001	− 2·1	+ 3·0	−·0005
11 00	40·2	69·1	69·0	58·2	68·8	−·0017	+·0001	− 2·1	+ 3·0	−·0005
06	40·3	69·2		58·2		−·0017	+·0001	− 2·0	+ 3·0	−·0005
12	39·9	68·8		59·1		−·0018	+·0002	− 2·4	+ 3·3	−·0005
18	39·1	68·8		60·2		−·0018	+·0004	− 3·0	+ 3·6	+·0004
24	38·8	68·6		60·9		+·0019	+·0004	− 3·2	+ 3·8	+·0004
30	38·1	68·6		61·7		−·0019	+·0005	− 3·8	+ 4·0	+·0004
36	37·9	68·7		62·2		−·0019	+·0006	− 4·0	+ 4·1	−·0003
42	38·0	69·3		62·2		−·0018	+·0006	− 3·9	+ 4·0	−·0003
48	39·5	69·3		61·9		−·0018	+·0006	− 2·8	+ 4·0	−·0003
54	39·0	69·7		60·3		−·0018	+·0004	− 3·2	+ 3·6	−·0004
12 00	39·0	70·2	68·9	60·6	68·6	−·0017	+·0005	− 3·2	+ 3·6	−·0003
13 00	40·3	—	68·6	—	68·4	—	—	− 2·6	—	—
06	40·3	—		—		—	—	− 2·6	—	—
12	43·0	75·0		44·0		−·0010	−·0013	− 0·6	− 0·5	−·0012
18	44·8	77·0		46·9		−·0007	−·0010	+ 0·8	− 0·5	−·0009
24	46·0	78·4		49·6		−·0004	−·0007	+ 1·7	− 0·5	−·0006
30	46·7	78·6		52·2		−·0004	−·0004	+ 2·1	0·0	−·0004
36	47·0	78·1		52·6		−·0005	−·0004	+ 2·3	+ 0·2	−·0004
42	46·5	77·2		52·4		−·0007	−·0004	+ 2·0	+ 0·5	−·0005
48	45·8	77·2		50·0		−·0007	−·0007	+ 1·4	0·0	−·0007
54	46·1	76·6		49·3		−·0008	−·0008	+ 1·7	0·0	−·0008

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OBSERVATIONS OF THE MAGNETOMETERS. The V. F. was observed 2m. before, and the H. F. 2m. after the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
15 14 00	46·8	75·2	68·5	49·5	68·2	−·0011	−·0007	+ 2·2	+ 0·7	−·0008
06	46·4	76·2		48·7		−·0009	−·0008	+ 1·9	+ 0·2	−·0008
12	46·4	76·8		48·5		−·0008	−·0008	+ 1·8	0·0	−·0008
18	46·5	77·3		48·8		−·0007	−·0008	+ 1·9	− 0·2	−·0008
24	46·1	78·0		48·9		−·0006	−·0008	+ 1·6	− 0·3	−·0007
30	46·2	78·2		49·5		−·0006	−·0007	+ 1·6	− 0·2	−·0007
36	46·2	78·2		49·5		−·0006	−·0007	+ 1·6	− 0·2	−·0007
42	46·9	78·1		49·5		−·0006	−·0007	+ 2·1	− 0·2	−·0007
48	47·6	77·1		50·0		−·0008	−·0007	+ 2·6	+ 0·2	−·0007
54	47·8	76·3		49·9		−·0010	−·0007	+ 2·7	+ 0·5	−·0008
15 00	47·7	76·2	68·4	48·5	68·1	−·0010	−·0008	+ 2·6	+ 0·3	−·0009
06	47·2	76·2		47·5		−·0010	−·0009	+ 2·3	+ 0·2	−·0009
12	47·6	76·4		46·6		−·0009	−·0010	+ 2·6	− 0·2	−·0010
18	47·9	76·4		48·8		−·0009	−·0008	+ 2·8	+ 0·2	−·0008
24	48·2	76·7		44·9		−·0009	−·0012	+ 3·0	− 0·5	−·0011
30	48·9	76·0		48·3		−·0008	−·0009	+ 3·5	− 0·2	−·0009
36	48·6	77·1		48·0		−·0008	−·0009	+ 3·2	− 0·2	−·0009
42	49·1	77·1		48·3		−·0008	−·0009	+ 3·6	− 0·2	−·0009
48	49·3	75·4		48·5		−·0011	−·0009	+ 3·8	+ 0·3	−·0010
54	49·0	75·0		47·7		−·0012	−·0010	+ 3·5	+ 0·3	−·0011
16 00	48·1	75·1	68·3	46·2	68·0	−·0011	−·0011	+ 2·9	0·0	−·0011
06	47·0	75·6		45·0		−·0011	−·0012	+ 2·0	− 0·2	−·0012
12	46·9	75·7		44·2		−·0011	−·0013	+ 1·9	− 0·3	−·0012
18	46·9	75·2		43·6		−·0012	−·0014	+ 1·9	− 0·3	−·0013
24	47·3	75·0		44·6		−·0012	−·0013	+ 2·1	− 0·2	−·0013
30	47·6	74·9		44·6		−·0013	−·0013	+ 2·3	0·0	−·0013
36	48·0	75·0		44·0		−·0013	−·0013	+ 2·6	0·0	−·0013
42	48·0	75·1		44·1		−·0013	−·0013	+ 2·6	0·0	−·0013
48	49·5	75·6		45·0		−·0012	−·0012	+ 3·7	0·0	−·0012
54	49·5	75·0		45·4		−·0013	−·0012	+ 3·6	+ 0·2	−·0012
17 00	49·5	74·8	67·7	45·0	67·9	−·0014	−·0012	+ 3·6	+ 0·3	−·0013
06	50·0	75·0		44·8		−·0013	−·0012	+ 4·0	+ 0·2	−·0012
12	50·5	75·0		46·0		−·0014	−·0011	+ 4·4	+ 0·5	−·0012
18	50·7	75·0		46·5		−·0013	−·0011	+ 4·6	+ 0·3	−·0012
24	50·5	75·2		46·1		−·0013	−·0011	+ 4·4	+ 0·3	−·0012
30	50·6	75·4		45·9		−·0012	−·0011	+ 4·5	+ 0·2	−·0011
36	50·7	75·7		46·4		−·0012	−·0011	+ 4·6	+ 0·2	−·0011
42	51·6	75·2		47·2		−·0013	−·0010	+ 5·3	+ 0·5	−·0011
48	51·9	74·5		47·2		−·0014	−·0010	+ 5·6	+ 0·7	−·0011
54	51·3	74·0		45·8		−·0015	−·0011	+ 5·1	+ 0·7	−·0012
18 00	50·6	73·4	68·2	44·8	68·0	−·0016	−·0013	+ 4·6	+ 0·5	−·0014
06	49·5	72·6		42·9		−·0018	−·0015	+ 3·8	+ 0·5	−·0016
12	49·0	71·4		41·3		−·0020	−·0017	+ 3·5	+ 0·5	−·0018
18	48·5	71·3		40·1		−·0020	−·0018	+ 3·2	+ 0·3	−·0019
24	49·0	70·9		40·1		−·0021	−·0019	+ 3·6	+ 0·3	−·0020
30	49·1	71·7		38·9		−·0020	−·0020	+ 3·8	0·0	−·0020
36	50·0	71·4		40·6		−·0021	−·0018	+ 4·5	+ 0·5	−·0019
42	49·0	70·1		39·2		−·0023	−·0020	+ 3·8	+ 0·5	−·0021
48	49·0	69·2		36·7		−·0025	−·0023	+ 3·8	+ 0·3	−·0024
54	50·7	69·0		38·7		−·0026	−·0021	+ 5·2	+ 0·8	−·0023
19 00	51·0	69·5	67·8	38·8	67·7	−·0025	−·0021	+ 5·5	+ 0·7	−·0022
06	51·0	69·9		38·8		−·0025	−·0021	+ 5·6	+ 0·7	−·0022

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MEAN MONTHLY READINGS OF THE MAGNETOMETERS.

Mean Göttingen Time.	Declination.	H. F. at 69°·0.	V. F. at 68°·6.	Mean Göttingen Time.	Declination.	H. F. at 69°·0.	V. F. at 68°·6.
Hours.	Sc. Div.	Sc. Div.	Sc. Div.	Hours.	Sc. Div.	Sc. Div.	Sc. Div.
00	22·4	62·1	12·6	12	20·6	54·2	12·9
01	22·9	62·6	—	14	21·0	55·2	12·9
02	21·9	61·9	13·6	15	20·9	55·5	—
03	20·8	60·6	—	16	20·9	55·6	12·8
04	20·0	58·8	13·8	18	21·6	55·9	12·5
05	19·4	57·5	—	19	22·0	56·1	—
06	19·4	56·2	13·8	20	21·6	56·5	12·3
08	20·2	54·5	13·5	21	19·4	57·7	—
10	20·3	53·6	13·2	22	18·7	59·0	12·6
11	20·4	53·9	—	23	19·8	60·1	—

Coefficients (A), Approximate Absolute Values (B.)

(A) Declin. $a = 0'·711$

H. F. $k = ·00019$, $q = ·00028$

V. F. $k = ·0007$, $q = ·00002$

(B) Approx. $\psi = 23° 08'$, $X = 5·57$, $Y = 2·19$, $\theta = -21° 30'$, $\phi = 6·00$

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 2m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
14 19 02	20·3	—	68·0	—	67·5	—	—	− 1·2	—	—
08	20·9	—		—		—	—	− 0·8	—	—
14	22·0	45·1		13·6		−·0024	+·0008	+ 0·1	+ 3·8	−·0020
20	23·5	45·8		13·7		−·0022	+·0009	+ 1·1	+ 3·5	−·0018
26	24·0	46·2		13·8		−·0022	+·0010	+ 1·5	+ 3·8	−·0018
32	23·4	46·2		13·6		−·0022	+·0009	+ 1·1	+ 3·5	−·0018
38	23·7	45·2		13·9		−·0024	+·0011	+ 1·3	+ 4·1	−·0019
44	23·6	43·5		13·9		−·0027	+·0011	+ 1·3	+ 4·5	−·0022
50	23·2	42·4		13·7		−·0029	+·0010	+ 1·1	+ 4·6	−·0024
56	23·1	41·7		14·4		−·0031	+·0015	+ 1·1	+ 5·4	−·0025
20 02	23·3	42·9	68·1	14·7	67·4	−·0028	+·0017	+ 1·2	+ 5·3	−·0022
08	22·6	44·0		14·7		−·0026	+·0017	+ 0·8	+ 4·9	−·0020
14	22·1	44·0		14·7		−·0027	+·0017	+ 0·6	+ 5·2	−·0021
20	21·9	44·4		14·7		−·0026	+·0016	+ 0·7	+ 4·9	−·0020
26	20·9	44·6		14·8		−·0026	+·0017	+ 0·1	+ 4·9	−·0020
32	20·5	45·0		14·8		−·0026	+·0017	0·0	+ 4·9	−·0020
38	20·0	44·9		15·2		−·0026	+·0020	− 0·2	+ 5·4	−·0020
44	19·8	44·8		15·0		−·0026	+·0018	− 0·2	+ 5·2	−·0020
50	19·6	44·6		15·1		−·0027	+·0018	− 0·1	+ 5·3	−·0021
56	19·6	44·2		15·0		−·0028	+·0018	0·0	+ 5·4	−·0022
21 02	19·1	44·2	68·1	15·2	67·5	−·0028	+·0019	− 0·2	+ 5·4	−·0022
08	18·8	44·1		15·3		−·0029	+·0020	− 0·4	+ 5·8	−·0022
14	18·4	45·0		15·1		−·0027	+·0018	− 0·6	+ 5·3	−·0021
20	18·1	43·2		15·1		−·0031	+·0018	− 0·8	+ 5·8	−·0024
26	17·8	43·5		15·1		−·0031	+·0018	− 0·9	+ 5·8	−·0024
32	17·9	43·6		15·1		−·0031	+·0018	− 0·8	+ 5·8	−·0024
38	18·0	44·0		15·2		−·0030	+·0018	− 0·7	+ 5·7	−·0023
44	18·0	44·2		15·3		−·0030	+·0019	− 0·6	+ 5·8	−·0023
50	18·4	44·0		15·3		−·0031	+·0019	− 0·3	+ 5·9	−·0024
56	18·8	44·1		15·3		−·0031	+·0019	0·0	+ 5·9	−·0024
22 02	18·8	43·0	68·0	14·8	67·5	−·0033	+·0015	+ 0·1	+ 5·7	−·0026
08	18·5	41·8		14·8		−·0036	+·0015	− 0·2	+ 6·0	−·0029
14	18·3	41·0		14·8		−·0037	+·0015	− 0·4	+ 6·1	−·0030
20	18·5	42·0		14·8		−·0036	+·0015	− 0·4	+ 6·0	−·0029
26	18·6	42·0		14·7		−·0036	+·0015	− 0·4	+ 6·0	−·0029
32	18·8	43·1		14·7		−·0034	+·0015	− 0·4	+ 5·8	−·0027
38	19·1	46·0		14·7		−·0029	+·0015	− 0·2	+ 5·2	−·0023
44	19·5	44·8		14·7		−·0031	+·0015	0·0	+ 5·4	−·0025
50	19·4	42·1		14·2		−·0037	+·0011	− 0·1	+ 5·7	−·0030
56	19·5	40·0		14·2		−·0041	+·0011	− 0·1	+ 6·1	−·0034

1842.
St. Helena.

April 14—15.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 2m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
						$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta \psi$	$\Delta \theta$	$\frac{\Delta \phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
14 23 02	19·9	40·5	68·0	14·2	67·8	−·0040	+·0011	+ 0·1	+ 6·0	−·0033
08	20·5.	41·3		14·2		−·0039	+·0011	+ 0·3	+ 5·9	−·0032
14	20·0	42·7		14·2		−·0037	+·0011	− 0·2	+ 5·7	−·0030
20	21·3	43·1		14·2		−·0036	+·0011	+ 0·5	+ 5·4	−·0030
26	22·5	45·0		14·2		−·0033	+·0011	+ 1·2	+ 5·2	−·0027
32	22·8	45·1		14·2		−·0033	+·0011	+ 1·2	+ 5·2	−·0027
38	23·1	46·8		14·2		−·0030	+·0011	+ 1·2	+ 4·8	−·0025
44	23·3	47·2		14·2		−·0030	+·0011	+ 1·2	+ 4·8	−·0025
50	23·8	47·8		14·2		−·0029	+·0011	+ 1·3	+ 4·7	−·0024
56	23·8	48·5		14·2		−·0028	+·0011	+ 1·2	+ 4·6	−·0023
15 00 02	23·9	48·1	68·1	13·9	68·0	−·0029	+·0009	+ 1·1	+ 4·5	−·0024
08	24·0	48·1		14·1		−·0029	+·0010	+ 1·1	+ 4·6	−·0024
14	23·9	49·0		14·1		−·0027	+·0010	+ 1·0	+ 4·2	−·0022
20	24·0	49·9		14·1		−·0026	+·0009	+ 1·0	+ 4·1	−·0021
26	24·0	50 0		14·1		−·0025	+·0009	+ 1·0	+ 4·0	−·0020
32	24·2	51·0		14·1		−·0023	+·0008	+ 1·1	+ 3·5	−·0019
38	24·5	51·9		14·2		−·0022	+·0009	+ 1·3	+ 3·5	−·0018
44	24·6	52·1		14·2		−·0021	+·0008	+ 1·3	+ 3·4	−·0017
50	24·3	52·9		14·2		−·0020	+·0008	+ 1·1	+ 3·3	−·0016
56	24·6	52·9		14·2		−·0020	+·0008	+ 1·2	+ 3·3	−·0016
01 02	24·1	52·9	68·6	14·3	68·2	−·0020	+·0008	+ 0·8	+ 3·3	−·0016
32	24·0	53·0		(a)14·3		−·0018	+·0006	+ 1·1	+ 2·8	−·0015
56	23·2	52·1		14·5		−·0019	+·0006	+ 0·8	+ 2·8	−·0016
02 02	22·9	52·1	68·8	14·5	68·4	−·0019	+·0006	+ 0·7	+ 2·8	−·0016
08	22·9	52·1		14·5		−·0019	+·0006	+ 0·8	+ 2·8	−·0016
32	(b)21·6	(c)48·0		(d)14·6		−·0025	+·0006	+ 0·2	+ 3·5	−·0021
03 02	(e)20·2	—	69·0	—	68·5	—	—	− 0·4	—	—
32	19·4	43·5		(a)13·9		−·0031	+·0001	− 0·7	+ 3·8	−·0027
04 02	18·0	40·8	69·1	13·8	68·6	−·0034	·0000	− 1·4	+ 4·0	−·0029
08	18·0	41·0		13·8		−·0033	·0000	− 1·3	+ 3·9	−·0029
14	17·7	41·0		13·8		−·0033	·0000	− 1·5	+ 3·9	−·0029
20	17·4	40·8		13·8		−·0033	·0000	− 1·7	+ 3·9	−·0029
26	17·3	40·8		13·8		−·0033	·0000	− 1·8	+ 3·9	−·0029
32	17·2	41·1		13·8		−·0032	·0000	− 1·8	+ 3·8	−·0028
38	17·2	41·0		12·6		−·0032	−·0008	− 1·7	+ 2·8	−·0029
44	17·1	41·0		13·0		−·0032	−·0006	− 1·8	+ 3·1	−·0028
50	17·2	41·8		14·4		−·0030	+·0004	− 1·6	+ 4·0	−·0025
56	16·9	41·9		14·5		−·0030	+·0005	− 1·8	+ 4·1	−·0025
05 02	16·8	42·0	69·1	14·5	68·7	−·0029	+·0005	− 1·8	+ 4·0	−·0024
08	16·5	42·0		14·5		−·0029	+·0005	− 2.0	+ 4·0	−·0024
14	16·1	41·6		14·4		−·0030	+·0004	− 2·3	+ 4·0	−·0025
20	16·1	41·2		14·4		−·0030	+·0004	− 2·3	+ 4·0	−·0025
26	15·5	41·0		14·4		−·0030	+·0004	− 2·7	+ 4·0	−·0025
32	16·1	41·1		14·4		−·0030	+·0004	− 2·3	+ 4·0	−·0025
38	15·8	41·6		14·4		−·0029	+·0004	− 2·5	+ 3·9	−·0025
44	15·6	41·9		13·9		−·0028	+·0001	− 2·7	+ 3·4	−·0024
50	15·4	42·0		13·9		−·0027	+·0001	− 2·8	+ 3·3	−·0023
56	15·4	41·8		13·9		−·0027	+·0001	− 2·8	+ 3·3	−·0023
06 02	15·0	42·0	69·1	13·9	68·8	−·0027	+·0001	− 3·1	+ 3·3	−·0023
08	14·8	41·0		14·0		−·0029	+·0001	− 3·2	+ 3·5	−·0025
14	14·8	39·4		14·0		−·0031	+·0001	− 3·3	+ 3·8	−·0027
20	14·9	38·6		14·0		−·0033	+·0001	− 3·2	+ 4·0	−·0028
26	15·4	38·5		13·8		−·0033	·0000	− 2·9	+ 3·9	−·0029
32	15·4	38·2		13·8		−·0033	+·0001	− 2·9	+ 4·0	−·0028
38	15·4	37·6		13·7		−·0034	·0000	− 2·9	+ 4·0	−·0029
44	15·5	37·2		13·8		−·0035	+·0001	− 2·9	+ 4·2	−·0030
50	15·6	37·1		13·8		−·0035	+·0001	− 2·9	+ 4·2	−·0030
56	15·6	37·0		13·8		−·0035	+·0001	− 2·9	+ 4·2	−·0030
07 02	15·6	—	69·0	—	68·8	—	—	− 2·9	—	—
08	15·6	37·1		14·6		−·0035	+·0006	− 2·9	+ 4·8	−·0030
14	15·6	37·6		14·6		−·0033	+·0006	− 3·0	+ 4·6	−·0028

(a), observed at 28m.; (b) observed at 35m.; (c) observed at 37m.; (d) observed at 33m.; (e) observed at 32m. 30s.

1842.
St. Helena.

April 15.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 2m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
						$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
15 07 20	16·0	38·0		14·6		−·0033	+·0007	− 2·7	+ 4·7	−·0028
26	16·5	38·1		14·6		−·0032	+·0007	− 2·5	+ 4·6	−·0027
32	16·9	38·1		14·6		−·0032	+·0007	− 2·2	+ 4·6	−·0027
38	17·0	38·0		14·7		−·0032	+·0008	− 2·1	+ 4·7	−·0027
44	17·3	39·0		14·7		−·0030	+·0008	− 2·0	+ 4·5	−·0025
50	17·2	40·0		14·5		−·0028	+·0007	− 2·0	+ 4·1	−·0023
56	17·8	39·9		14·5		−·0028	+·0007	− 1·7	+ 4·1	−·0023
08 02	17·7	38·9	68·9	14·7	68·8	−·0030	+·0008	− 1·8	+ 4·5	−·0025
08	17·0	38·9		14·4		−·0030	+·0006	− 2·2	+ 4·2	−·0025
14	17·0	39·1		14·4		−·0029	+·0006	− 2·2	+ 4·1	−·0024
20	16·9	39·9		14·4		−·0028	+·0006	− 2·3	+ 4·0	−·0023
26	16·8	40·9		14·4		−·0026	+·0006	− 2·4	+ 3·8	−·0022
32	17·0	41·1		14·3		−·0025	+·0006	− 2·3	+ 3·5	−·0021
38	17·2	42·7		14·3		−·0022	+·0006	− 2·2	+ 3·3	−·0018
44	17·8	43·0		14·3		−·0021	+·0006	− 1·8	+ 3·2	−·0017
50	18·0	40·9		14·3		−·0025	+·0006	− 1·6	+ 3·5	−·0021
56	17·8	43·0		14·0		−·0021	+·0004	− 1·8	+ 2·8	−·0018
09 02	17·8	43·2	69·0	14·1	68·7	−·0021	+·0005	− 1·8	+ 3·1	−·0017
08	17·2	43·7		14·1		−·0020	+·0005	− 2·2	+ 2·8	−·0017
14	17·2	44·2		14·1		−·0019	+·0005	− 2·2	+ 2·8	−·0016
20	17·5	45·1		14·1		−·0017	+·0006	− 2·0	+ 2·7	−·0014
26	18·0	46·5		14·1		−·0014	+·0006	− 1·6	+ 2·4	−·0011
32	18·3	47·1		14·1		−·0013	+·0006	− 1·4	+ 2·1	−·0011
38	18·8	46·3		14·1		−·0014	+·0006	− 1·1	+ 2·4	−·0011
44	18·8	45·2		14·1		−·0016	+·0006	− 1·1	+ 2·6	−·0013
50	18·8	44·7		14·1		−·0017	+·0006	− 1·1	+ 2·7	−·0014
56	18·8	44·2		14·1		−·0018	+·0006	− 1·1	+ 2·8	−·0015
10 02	18·8	44·0	69·0	14·1	68·6	−·0018	+·0006	− 1·1	+ 2·8	−·0015
08	18·6	—		—		—	—	− 1·2	—	—
14	18·6	43·4		14·1		−·0020	+·0006	− 1·2	+ 3·1	−·0016
20	18·6	43·5		14·1		−·0019	+·0006	− 1·2	+ 2·8	−·0016
26	18·4	43·2		14·1		−·0020	+·0006	− 1·3	+ 3·1	−·0016
32	18·3	43·1		14·1		−·0020	+·0007	− 1·5	+ 3·2	−·0016
38	18·2	43·0		14·1		−·0021	+·0007	− 1·5	+ 3·3	−·0017
44	18·1	43·0		14·1		−·0021	+·0007	− 1·6	+ 3·3	−·0017
50	18·1	43·1		14·1		−·0020	+·0007	− 1·6	+ 3·2	−·0016
56	18·2	43·4		14·3		−·0020	+·0008	− 1·5	+ 3·3	−·0016
11 02	18·3	43·2	69·0	14·3	68·8	−·0020	+·0008	− 1·5	+ 3·3	−·0016
08	18·3	43·0		14·3		−·0021	+·0008	− 1·5	+ 3·4	−·0017
14	18·2	42·4		14·3		−·0022	+·0008	− 1·5	+ 3·5	−·0018
20	18·0	42·0		14·3		−·0023	+·0009	− 1·8	+ 3·8	−·0019
26	17·9	41·5		14·3		−·0024	+·0009	− 1·8	+ 3·9	−·0020
32	17·7	41·2		14·3		−·0025	+·0009	− 2·0	+ 4·0	−·0020
38	17·7	41·0		13·9		−·0025	+·0006	− 2·0	+ 3·5	−·0021
44	17·7	41·0		13·9		−·0025	+·0006	− 2·0	+ 3·5	−·0021
50	18·6	42·0		14·0		−·0023	+·0008	− 1·4	+ 3·5	−·0019
56	18·3	41·9		14·0		−·0023	+·0008	− 1·6	+ 3·5	−·0019
12 02	18·4	42·0	69·1	14·1	68·9	−·0023	+·0008	− 1·5	+ 3·5	−·0019
08	18·0	—		—		—	—	− 1·8	—	—
14	17·9	42·2		13·9		−·0023	+·0007	− 1·9	+ 3·5	−·0019
20	18·5	43·8		15·0		−·0020	+·0015	− 1·5	+ 4·1	−·0015
26	18·8	44·8		15·0		−·0018	+·0015	− 1·3	+ 3·9	−·0014
32	19·7	46·7		15·0		−·0015	+·0015	− 0·7	+ 3·5	−·0011
38	19·9	47·1		15·0		−·0014	+·0015	− 0·6	+ 3·4	−·0010
44	19·9	47·0		15·0		−·0014	+·0015	− 0·6	+ 3·4	−·0010
50	19·2	46·3		14·5		−·0016	+·0011	− 1·1	+ 3·2	−·0012
56	18·6	45·1		14·5		−·0018	+·0011	− 1·5	+ 3·4	−·0014
13 08	18·3	45·8	69·1	15·5	68·8	−·0017	+·0018	− 1·8	+ 4·1	−·0012
14	19·0	46·8		15·4		−·0015	+·0018	− 1·3	+ 3·9	−·0011
20	19·3	49·2		14·9		−·0011	+ 0014	− 1·1	+ 2·8	−·0008
26	19·6	50·8		14·9		−·0008	+·0014	− 0·9	+ 2·6	−·0005
32	20·1	51·0		14·9		−·0008	+·0014	− 0·6	+ 2·6	−·0005

1842. St. Helena.

April 15.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 2m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.*

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
15 13 38	20·4	50·0		15·2		−·0010	+·0016	− 0·4	+ 3·1	−·0006
44	20·2	50·1		15·2		−·0010	+·0016	− 0·5	+ 3·1	−·0006
50	20·4	50·1		15·2		−·0010	+·0016	− 0·4	+ 3·1	−·0006
56	20·5	49·2		14·8		−·0011	+·0013	− 0·4	+ 2·8	−·0008
14 02	20·8	49·5	69·0	14·8	68·6	−·0011	+.0013	− 0·1	+ 2·8	−·0008
08	20·8	49·8		14·8		−·0010	+·0013	− 0·1	+ 2·7	−·0007
14	20·5	50·4		14·8		−·0009	+·0013	− 0·4	+ 2·6	−·0006
20	20·6	50·5		14·8		−·0009	+·0013	− 0·3	+ 2·6	−·0006
26	20·4	51·0		14·6		−·0008	+·0012	− 0·4	− 2·4	−·0005
32	20·4	—		—		—	—	− 0·4	—	—
38	20·3	51·1		14·0		− 0008	+·0008	− 0·4	− 1·9	−·0006
44	20·4	51·0		14·1		−·0009	+·0008	− 0·4	+ 2·0	−·0007
50	21·0	50·2		13·9		−·0010	+·0007	+ 0·1	+ 2·0	−·0008
56	21·1	49·8		14·2		−·0011	+·0009	+ 0·1	+ 2·4	−·0008
15 02	21·2	49·4	68·9	14·2	68·5	−·0012	+·0009	+ 0·2	+ 2·5	−·0009
32	21·5	49·5		(a)14·3		−·0012	+·0011	+ 0·4	+ 2·7	−·0009
16 02	20·8	48·6	68·9	14·3	68·4	−·0014	+·0011	− 0·1	+ 2·8	−·0011
32	21·4	48·8		(a)14·3		−·0014	+·0011	+ 0·2	+ 2·8	−·0011

VAN DIEMEN ISLAND, 1842. APRIL 14—15, and 20—21.

1842. Van Diemen Island.

April 14—15.

For Mean Monthly Readings, *see* page 31.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. 30s. before, and the V. F. 5m. before the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M. S.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
14 23 02 30	58·7	42·0	60·3	87·7	58·8	−·0011	+·0001	− 8·0	+ 1·3	·0000
12 30	54·7	43·0		—		−·0010	—	−10·7	—	—
17 30	61·0	—		—		—	—	− 6·1	—	—
22 30	65·7	28·1		97·4		−·0028	+·0004	− 2·6	+ 3·5	+·0001
27 30	65·4	—		—		—	—	− 2·7	—	—
32 30	65·0	12·6		109·0		−·0047	+·0008	− 2·9	+ 5·9	+·0002
37 30	59·9	—		—		—	—	− 6·4	—	—
42 30	62·1	23·4		98·4		−·0034	+·0004	− 4·8	+ 4·1	·0000
47 30	63·1	—		—		—	—	− 4·0	—	—
52 30	64·2	26·3		94·3		−·0031	+·0002	− 3·0	+ 3·6	−·0002
57 30	62·2	—		—		—	—	− 4·4	—	—
15 00 02 30	62·9	26·3	60·0	91·2	58·0	−·0033	+·0001	− 3·8	+ 3·7	−·0003
07 30	67·5	—		—		—	—	− 0·6	—	—
17 30	67·1	—		—		—	—	− 1·0	—	—
27 30	68·2	—		—		—	—	− 0·6	—	—
37 30	68·1	—		—		—	—	− 0·6	—	—
42 30	67·8	—		—		—	—	− 0·9	—	—
52 30	68·2	—		—		—	—	− 0·8	—	—
01 02 30	70·1	39·1	59·0	92·2	57·8	−·0017	+·0002	+ 0·4	+ 2·0	·0000
02 02 30	73·6	45·0	58·0	92·4	57·5	−·0012	+·0001	+ 2·6	+ 1·4	·0000
03 02 30	67·5	38·4	57·0	98·3	56·4	−·0025	+·0003	− 1·4	+ 3·0	·0000
04 02 30	67·7	45·6	56·0	97·5	55·2	−·0017	·0000	− 2·7	+ 1·8	−·0002
05 02 30	72·1	44·5	55·4	103·6	54·6	−·0021	+·0002	− 0·2	+ 2·5	−·0001
06 02 30	73·5	39·0	54·8	103·6	54·0	−·0028	·0000	+ 0·6	+ 3·0	−·0003
07 02 30	76·5	45·3	54·4	107·7	53·5	−·0022	+·0001	+ 3·0	+ 2·5	−·0002
08 02 30	79·2	49·8	54·0	107·2	53·0	−·0017	+·0001	+ 4·8	+ 1·9	−·0001
09 02 30	84·2	50·2	53·5	120·9	53·0	−·0019	+·0005	+ 8·3	+ 2·6	+·0002
12 30	84·0	—		—		—	—	+ 8·4	—	—
17 30	83·6	—		—		—	—	+ 8·2	—	—

(a). observed at 28m.

1842.
Van Diemen Island.

April 15 and 20.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. 30s. before, and the V. F. 5m. before the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
						$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta \psi$	$\Delta \theta$	$\frac{\Delta \phi}{\phi}$
D. H. M. S.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
15 09 22 30	82·8	52·9		112·3		−·0017	+·0002	+ 7·7	+ 2·0	·0000
27 30	81·6	—		—		—	—	+ 6·9	—	—
32 30	80·8	53·4		104·9		−·0016	·0000	+ 6·5	+ 1·7	−·0002
37 30	78·9	—		—		—	—	+ 5·2	—	—
42 30	76·8	49·6		98·8		−·0021	−·0002	+ 3·8	+ 2·0	−·0004
47 30	74·3	—		—		—	—	+ 2·0	—	—
52 30	73·7	—		97·0		—	−·0003	+ 1·8	—	—
10 02 30	72·4	50·7	53·0	96·1	53·0	−·0020	−·0003	+ 1·0	+ 1·8	−·0005
11 02 30	73·1	42·3	53·7	102·9	54·0	−·0025	+·0001	+ 2·8	+ 2·8	−·0002
12 02 30	73·6	31·3	54·0	112·8	55·0	−·0034	+·0006	+ 3·4	+ 4·3	+·0002
13 02 30	71·5	24·1	56·2	110·7	56·5	−·0035	+·0008	+ 1·9	+ 4·6	+·0003
14 02 30	70·4	15·4	58·0	105·8	58·0	−·0041	+·0008	− 0·6	+ 5·3	+·0003
15 02 30	72·9	16·1	59·7	98·6	59·3	−·0034	+·0007	− 0·8	+ 4·4	+·0002
16 02 30	78·2	12·8	61·5	102·5	60·5	−·0037	+·0009	+ 1·1	+ 5·0	+·0004
17 02 30	80·1	24·5	61·7	98·9	60·5	−·0026	+·0008	+ 2·0	+ 3·7	+·0004
18 02 30	79·7	33·2	62·0	108·9	60·5	−·0017	+·0010	+ 1·7	+ 2·9	+·0007
19 02 30	51·4	35·8	62·3	108·3	60·5	−·0016	+·0011	−16·7	+ 2·9	+·0008
07 30	54·3	—		—		—	—	−14·6	—	—
12 30	60·1	32·0		103·7		−·0020	+·0009	−10·3	+ 3·1	+·0006
17 30	56·7	—		—		—	—	−12·7	—	—
22 30	63·2	35·5		103·5		−·0016	+·0009	− 7·9	+ 2·7	+·0006
27 30	66·8	—		—		—	—	− 5·4	—	—
32 30	62·2	31·0		108·2		−·0021	+·0011	− 8·5	+ 3·5	+·0008
37 30	66·5	—		—		—	—	− 5·4	—	—
42 30	72·0	28·7		114·2		−·0024	+·0013	− 1·4	+ 4·0	+·0009
47 30	73·5	—		—		—	—	− 0·3	—	—
52 30	73·2	26·4		119·0		−·0026	+·0015	− 0·4	+ 4·4	+·0010
57 30	76·8	—		—		—	—	+ 2·2	—	—
20 02 30	77·2	26·1	62·5	121·1	60·5	−·0027	+·0015	+ 2·6	+ 4·5	+·0010
22 30	75·3	—		—		—	—	+ 1·4	—	—
27 30	75·8	—		—		—	—	+ 1·8	—	—
32 30	77·6	15·5		135·5		−·0038	+·0021	+ 3·1	+ 6·4	+·0014
37 30	76·7	—		—		—	—	+ 2·5	—	—
42 30	73·7	14·7		135·5		−·0039	+·0021	+ 0·4	+ 6·5	+·0014
47 30	73·9	—		—		—	—	+ 0·6	—	—
52 30	77·5	11·5		133·1		−·0042	+·0020	+ 3·2	+ 6·7	+·0013
57 30	74·1	—		—		—	—	+ 0·8	—	—
21 02 30	74·0	13·6	62·4	133·1	60·9	−·0039	+·0020	+ 0·8	+ 6·4	+·0013
20 10 02 30	69·0	64·1	54·8	107·1	52·8	+·0001	+·0001	− 1·4	0·0	+·0001
07 30	69·0	—		—		—	—	− 1·3	—	—
12 30	69·0	63·6		106·8		·0000	+·0001	− 1·2	+ 0·1	+·0001
17 30	69·3	—		—		—	—	− 0·8	—	—
22 30	69·3	61·7		106·5		−·0001	+·0001	− 0·8	+ 0·2	+·0001
27 30	68·2	—		—		—	—	− 1·4	—	—
32 30	68·0	62·6		107·2		+·0001	+·0002	− 1·5	+ 0·1	+·0002
37 30	68·4	—		—		—	—	− 1·1	—	—
42 30	68·4	62·4		106·9		+·0001	+·0002	− 0·9	+ 0·1	+·0002
47 30	68·2	—		—		—	—	− 1·0	—	—
52 30	68·0	62·6		104·5		+·0002	+·0001	− 1·0	− 0·1	+·0001
57 30	67·8	—		—		—	—	− 1·1	—	—
11 02 30	67·9	61·8	55·0	103·4	54·0	+·0002	+·0001	− 0·8	− 0·1	+·0001
07 30	67·5	—		—		—	—	− 1·1	—	—
12 30	67·5	62·3		101·2		+·0003	+·0001	− 1·1	− 0·2	+·0001
17 30	68·4	—		—		—	—	− 0·4	—	—
22 30	67·3	61·1		101·2		+ 0003	+·0001	− 1·2	− 0·2	+·0001
27 30	67·5	—		—		—	—	− 1·1	—	—
32 30	67·9	59·7		99·7		+·0002	+·0001	− 0·7	− 0·1	+·0001
37 30	67·9	—		—		—	—	− 0·7	—	—
42 30	67·6	58·7		99·8		+·0001	+·0002	− 0·9	+ 0·1	+·0002
47 30	67·5	—		—		—	—	− 1·0	—	—
52 30	67·9	57·8		100·0		+·0001	+·0003	− 0·6	+ 0·2	+·0003
57 30	68·0	—		—		—	—	− 0·6	—	—

1842.
Van Diemen Island.

April 20.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. 30s. before, and the V. F. 5m. before the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
						$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta \psi$	$\Delta \theta$	$\frac{\Delta \phi}{\phi}$
D. H. M. S.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
20 12 02 30	68·4	56·5	55·8	99·8	56·0	+·0001	+·0003	− 0·3	+ 0·2	+·0003
07 30	68·4	—		—		—	—	− 0·3	—	—
12 30	68·2	54·6		100·7		−·0001	+·0004	− 0·4	+ 0·5	+·0003
17 30	68·2	—		—		—	—	− 0·4	—	—
22 30	68·0	53·1		101·6		−·0002	+·0004	− 0·6	+ 0·7	+·0003
27 30	67·9	—		—		—	—	− 0·6	—	—
32 30	68·0	53·2		102·2		−·0001	+·0004	− 0·6	+ 0·5	+·0003
37 30	68·5	—		—		—	—	− 0·2	—	—
42 30	68·4	52·1		101·8		−·0002	+·0004	− 0·3	+ 0·7	+·0003
47 30	67·9	—		—		—	—	− 0·6	—	—
52 30	67·5	51·3		100·7		−·0002	+·0004	− 0·9	+ 0·7	+·0003
57 30	66·9	—		—		—	—	− 1·3	—	—
13 02 30	67·8	52·6	56·8	99·7	56·0	+·0001	+·0003	− 0·7	+ 0·2	+·0003
07 30	67·5	—		—		—	—	− 1·1	—	—
12 30	67·1	51·7		95·9		·0000	+·0002	− 1·5	+ 0·2	+·0002
17 30	64·9	—		—		—	—	− 3·2	—	—
22 30	67·5	52·3		92·4		+·0001	+·0001	− 1·5	0·0	+·0001
27 30	68·1	—		—		—	—	− 1·2	—	—
32 30	68·8	52·7		94·5		+·0002	+·0002	− 0·8	0·0	+·0002
37 30	69·5	—		—		—	—	− 0·6	—	—
42 30	69·3	52·7		93·0		+·0003	+·0001	− 0·8	− 0·2	+·0001
47 30	69·8	—		—		—	—	− 0·6	—	—
52 30	70·3	52·5		90·1		+·0003	·0000	− 0·4	− 0·3	·0000
57 30	71·0	—		—		—	—	− 0·1	—	—
14 02 30	70·9	50·4	58·0	91·1	57·0	+·0001	+·0001	− 0·3	0·0	+·0001
07 30	71·5	—		—		—	—	0·0	—	—
12 30	71·4	49·9		91·7		+·0002	+·0001	− 0·3	− 0·1	+·0001
17 30	72·2	—		—		—	—	+ 0·1	—	—
22 30	72·4	49·9		93·5		+·0002	+·0002	+ 0·1	0·0	+·0002
27 30	73·1	—		—		—	—	+ 0·4	—	—
32 30	73·1	49·5		92·3		+·0003	+·0002	+ 0·3	− 0·1	+·0002
37 30	72·5	—		—		—	—	− 0·3	—	—
42 30	73 4	50·7		91·5		+·0005	+·0001	+ 0·1	− 0·4	+·0001
47 30	74·6	—		—		—	—	+ 0·8	—	—
52 30	74·6	47·8		92·6		+·0003	+·0002	+ 0·7	− 0·1	+·0002
57 30	74·9	—		—		—	—	+ 0·7	—	—
15 02 30	75·0	44·7	59·4	94·1	58·0	·0000	+·0003	+ 0·6	+ 0·3	+·0003
07 30	74·6	—		—		—	—	+ 0·2	—	—
12 30	74·4	46·2		96·8		+·0002	+·0004	− 0·1	+ 0·2	+·0004
17 30	75·1	—		—		—	—	+ 0·3	—	—
22 30	75·1	45·3		97·9		+·0001	+·0004	+ 0·1	+ 0·3	+·0004
27 30	75·8	—		—		—	—	+ 0·5	—	—
32 30	76·9	45·9		97·7		+·0001	+·0004	+ 1·1	+ 0·3	+·0004
42 30	78·0	43·1		98·6		−·0002	+·0004	+ 1·5	+ 0·7	+·0003
47 30	77·7	—		—		—	—	+ 1·2	—	—
52 30	77·2	36·1		100·7		−·0011	+·0005	+ 0·7	+ 1·7	+·0003
57 30	75·7	—		—		—	—	− 0·5	—	—
16 02 30	75·1	33·9	60·6	106·8	58·8	−·0013	+·0007	− 1·1	+ 2·2	+·0005
07 30	74·4	—		—		—	—	− 1·6	—	—
12 30	73·5	33·3		107·1		−·0014	+·0007	− 2·2	+ 2·3	+·0005
17 30	75·6	—		—		—	—	− 0·8	—	—
22 30	77·4	35·4		108·3		−·0012	+·0008	+ 0·4	+ 2·2	+·0006
27 30	78·0	—		—		—	—	+ 0·8	—	—
32 30	78·2	35·0		108·0		−·0013	+·0008	+ 0·9	+ 2·3	+·0006
37 30	77·8	—		—		—	—	+ 0·6	—	—
42 30	77·8	36·9		107·1		−·0011	+·0008	+ 0·6	+ 2·0	+·0006
47 30	78·0	—		—		—	—	+ 0·6	—	—
52 30	78·5	37·7		103·1		−·0010	+·0007	+ 1·0	+ 1·8	+·0005
57 30	78·6	—		—		—	—	+ 1·0	—	—
17 02 30	78·4	39 7	61·5	102·0	60·0	−·0008	+·0007	+ 0·8	+ 1 6	+·0005
07 30	78·0	—		—		—	—	+ 0·6	—	—
12 30	78·1	40·1		97·8		−·0008	+·0006	+ 0·6	+ 1·5	+·0005

1842.
Van Diemen Island.

April 20.

OBSERVATIONS OF THE MAGNETOMETERS. The Declination was observed 2m. 30s. before, and the V. F. 5m. before the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M. S.	Sc. Div.	Sc. Div.	Therm. °	Sc Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
20 17 17 30	77·3	—		—		—	—	+ 0·1	—	—
22 30	76·8	41·3		93·9		− ·0006	+ ·0005	− 0·3	+ 1·2	+ ·0004
27 30	76·8	—		—		—	—	− 0·3	—	—
32 30	77·2	45·9		91·3		− ·0001	+ ·0004	0·0	+ 0·6	+ ·0003
37 30	77·5	—		—		—	—	+ 0:1	—	—
42 30	77·9	46·1		88·1		·0000	+ ·0003	+ 0·4	+ 0·3	+ ·0003
47 30	78·3	—		—		—	—	+ 0·7	—	—
52 30	78·8	47·7		86·6		+ ·0002	+ ·0002	+ 1·1	0·0	+ ·0002
57 30	78·4	—		—		—	—	+ 0·8	—	—
18 02 30	79·1	47·2	62·5	85·6	60·2	+ ·0001	+ ·0001	+ 0·1	0·0	+ ·0001
07 30	79·2	—		—		—	—	+ 0·4	—	—
12 30	79·3	46·6		86·4		·0000	+ ·0001	+ 0·4	+ 0·1	+ ·0001
17 30	79·5	—		—		—	—	+ 0·7	—	—
22 30	79·4	45·4		87·7		− ·0002	+ ·0002	+ 0·3	+ 0·4	+ ·0002
27 30	79·1	—		—		—	—	+ 0·8	—	—
32 30	78·0	45·9		87·2		− ·0002	+ ·0002	+ 0·4	+ 0·4	+ ·0002
37 30	77·0	—		—		—	—	+ 0·7	—	—
42 30	76·4	46·2		85·8		− ·0002	+ ·0002	+ 0·7	+ 0·4	+ ·0002
47 30	75·9	—		—		—	—	+ 0·8	—	—
52 30	76·1	49·3		85·2		+ ·0001	+ ·0002	+ 0·9	+ 0·1	+ ·0002
57 30	75·9	—		—		—	—	+ 0·8	—	—
19 02 30	76·8	52·1	62·5	83·8	60·5	+ ·0004	+ ·0002	+ 1·3	− 0·2	+ ·0002
07 30	76·7	—		—		—	—	+ 1·3	—	—
12 30	77·3	52·1		84·8		+ ·0004	+ ·0003	+ 1·8	− 0·1	+ ·0003
17 30	77·4	—		—		—	—	+ 2·0	—	—
22 30	78·9	51·3		86·6		+ ·0003	+ ·0003	+ 3·2	0·0	+ ·0003
27 30	79·1	—		—		—	—	+ 3·4	—	—
32 30	78·7	43·9		88·9		− ·0006	+ ·0004	+ 3·2	+ 1·1	+ ·0003
37 30	78·0	—		—		—	—	+ 2·7	—	—
42 30	77·7	42·2		95·0		− ·0008	+ ·0006	+ 2·6	+ 1·5	+ ·0005
47 30	77·3	—		—		—	—	+ 2·4	—	—
52 30	77·8	39·1		97·3		− ·0012	+ ·0007	+ 2·9	+ 2·0	+ ·0005
57 30	74·1	—		—		—	—	+ 0·4	—	—
20 02 30	70·8	44·2	62·0	93·0	60·5	− ·0006	+ ·0006	− 1·9	+ 1·3	+ ·0005
07 30	70·9	—		—		—	—	− 1·8	—	—
12 30	69·6	44·7		87·4		− ·0005	+ ·0004	− 2·7	+ 1·0	+ ·0003
17 30	68·4	—		—		—	—	− 3·4	—	—
22 30	67·5	44·6		80·6		− ·0005	+ ·0002	− 4·2	+ 0·8	+ ·0001
27 30	67·5	—		—		—	—	− 4·1	—	—
32 30	69·1	45·0		80·3		− ·0004	+ ·0003	− 2·9	+ 0·8	+ ·0002
37 30	69·7	—		—		—	—	− 2·4	—	—
42 30	70·0	44·6		79·7		− ·0004	+ ·0003	− 2·2	+ 0·8	+ ·0002
47 30	70·3	—		—		—	—	− 1·9	—	—
52 30	73·5	45·6		80·4		− ·0003	+ ·0004	+ 0·4	+ 0·8	+ ·0003
57 30	71·5	—		—		—	—	− 1·0	—	—
21 02 30	71·4	45·6	62·0	78·4	62·8	− ·0003	+ ·0004	− 1·1	+ 0·8	+ ·0003
07 30	71·3	—		—		—	—	− 1·1	—	—
12 30	71·6	44·3		79·1		− ·0004	+ ·0005	− 0·8	+ 1·0	+ ·0004
17 30	71·3	—		—		—	—	− 0·9	—	—
22 30	70·7	45·7		79·5		− ·0003	+ ·0006	− 1·3	+ 1·0	+ ·0005
27 30	70·7	—		—		—	—	− 1·2	—	—
32 30	71·1	48·1		78·7		·0000	+ ·0005	− 0·9	+ 0·5	+ ·0004
37 30	71·7	—		—		—	—	− 0·4	—	—
42 30	71·1	49·5		75·9		+ ·0002	+ ·0005	− 0·8	+ 0·3	+ ·0005
47 30	71·1	—		—		—	—	− 0·7	—	—
52 30	71·3	49·9		75·8		+ ·0002	+ ·0005	− 0·5	+ 0·3	+ ·0005
57 30	71·5	—		—		—	—	− 0·3	—	—
22 02 30	72·0	49·2	62·0	73·0	63·2	+ ·0001	+ ·0004	+ 0·1	+ 0·3	+ ·0004
07 30	72·2	—		—		—	—	+ 0·4	—	—
12 30	72·0	50·1		75·8		+ ·0002	+ ·0005	+ 0·4	+ 0·3	+ ·0005
17 30	72·3	—		—		—	—	+ 0·7	—	—
22 30	71·6	49·9		76·0		+ ·0002	+ ·0005	+ 0·3	+ 0·3	+ ·0005

1842.
Van Diemen Island.

April 20—21.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. 30s. before, and the V. F. 5m. before the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
						$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta \psi$	$\Delta \theta$	$\frac{\Delta \phi}{\phi}$
D. H. M. S.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
20 22 27 30	72·1	—		—		—	—	+ 0·8	—	—
32 30	71·5	49·2		74·1		+·0001	+·0005	+ 0·4	+ 0·4	+·0005
37 30	71·7	—		—		—	—	+ 0·7	—	—
42 30	71·6	47·5		75·9		−·0001	+·0006	+ 0·7	+ 0·8	+·0005
47 30	71·5	—		—		—	—	+ 0·8	—	—
52 30	71·6	46·5		76·9		−·0002	+·0006	+ 0·9	+ 0·9	+·0005
57 30	71·3	—		—		—	—	+ 0·8	—	—
23 02 30	69·8	43·6	61·8	78·3	63·2	−·0006	+·0007	− 0·1	+ 1·4	+·0006
07 30	68·0	—		—		—	—	− 1·3	—	—
12 30	66·5	40·9		75·7		−·0009	+·0006	− 2·2	+ 1·6	+·0004
17 30	63·4	—		—		—	—	− 4·4	—	—
22 30	62·9	45·0		76·7		−·0005	+·0007	− 4·7	+ 1·3	+·0006
27 30	64·5	—		—		—	—	− 3·3	—	—
32 30	64·6	45·3		75·6		−·0004	+·0007	− 3·2	+ 1·2	+·0006
37 30	61·1	—		—		—	—	− 5·6	—	—
42 30	54·7	48·4		68·3		−·0001	+·0004	−10·0	+ 0·5	+·0003
47 30	50·7	—		—		—	—	−12·7	—	—
52 30	51·5	61·7		59·6		+·0015	+·0002	−12·1	− 1·4	+·0003
57 30	53·0	—		—		—	—	−10·9	—	—
21 00 02 30	55·3	65·1	61·4	50·5	64·0	+·0019	−·0001	− 9·1	− 2·2	+·0001
07 30	57·2	—		—		—	—	− 7·9	—	—
12 30	58·7	63·7		48·9		+·0017	−·0002	− 6·9	− 2·0	·0000
17 30	59·6	—		—		—	—	− 6·3	—	—
22 30	61·0	61·9		52·6		+·0015	·0000	− 5·4	− 1·6	+·0002
27 30	61·5	—		—		—	—	− 5·1	—	—
32 30	61·3	58·0		56·7		+·0010	+·0001	− 5·4	− 1·0	+·0002
37 30	61·6	—		—		—	—	− 5·3	—	—
42 30	62·2	57·2		60·5		+·0009	+·0003	− 4·9	− 0·7	+·0004
47 30	62·9	—		—		—	—	− 4·5	—	—
52 30	63·0	53·9		63·2		+·0005	+·0004	− 4·5	− 0·1	+·0004
57 30	63·1	—		—		—	—	− 4·5	—	—
01 02 30	62·5	51·9	61·0	69·8	63·5	+·0003	+·0006	− 5·0	+ 0·3	+·0006
07 30	63·1	—		—		—	—	− 4·6	—	—
12 30	64·8	50·6		74·1		+·0001	+·0007	− 3·4	+ 0·7	+·0006
17 30	65·5	—		—		—	—	− 2·9	—	—
22 30	66·6	48·5		77·5		−·0001	+·0008	− 2·1	+ 1·0	+·0007
27 30	67·0	—		—		—	—	− 1·9	—	—
32 30	67·7	47·7		84·8		−·0002	+·0010	− 1·4	+ 1·3	+·0009
37 30	68·0	—		—		—	—	− 1·2	—	—
42 30	68·6	48·6		86·5		−·0001	+·0010	− 0·8	+ 1·2	+·0009
47 30	68·7	—		—		—	—	− 0·8	—	—
52 30	69·3	48·7		85·8		−·0001	+·0010	− 0·4	+ 1·2	+·0009
57 30	69·6	—		—		—	—	− 1·2	—	—
02 02 30	69·9	49·6	60·4	87·8	62·0	·0000	+·0010	0·0	+ 1·1	+·0009
07 30	69·7	—		—		—	—	− 0·1	—	—
12 30	69·9	50·9		85·1		+·0001	+·0008	+ 0·1	+ 0·8	+·0007
17 30	70·4	—		—		—	—	+ 0·4	—	—
22 30	70·5	51·1		88·5		·0000	+·0010	+ 0·5	+ 1·1	+·0009
27 30	69·6	—		—		—	—	− 0·1	—	—
32 30	69·0	50·4		85·1		−·0001	+·0009	− 0·5	+ 1·1	+·0008
37 30	68·6	—		—		—	—	− 0·8	—	—
42 30	68·6	51·4		85·6		·0000	+·0009	− 0·7	+ 1·0	+·0008
47 30	68·9	—		—		—	—	− 0·5	—	—
52 30	68·3	54·1		84·9		+·0002	+·0009	− 0·9	+ 0·8	+·0008
57 30	68·1	—		—		—	—	− 1·0	—	—
03 02 30	67·9	53·1	60·4	82·5	61·5	+·0001	+·0008	− 1·1	+ 0·8	+·0007
07 30	67·7	—		—		—	—	− 1·4	—	—
12 30	68·5	56·4		81·4		+·0005	+·0008	− 1·0	+ 0·3	+·0008
17 30	70·5	—		—		—	—	+ 0·4	—	—
22 30	73·5	63·3		81·2		+·0013	+·0008	+ 2·3	− 0·5	+·0009
27 30	74·2	—		—		—	—	+ 2·7	—	—
32 30	72·7	63·0		78·3		+·0013	+·0007	+ 1·5	− 0·7	+·0008

OBSERVATIONS OF THE MAGNETOMETERS. The Declination was observed 2m. 30s. before, and the V. F. 5m. before the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M. S.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
21 03 37 30	72·6	—		—		—	● —	+ 1·3	—	—
42 30	72·5	59·4		74·0		+·0009	+·0005	+ 1·1	− 0·4	+·0005
47 30	73·0	—		—		—	—	+ 1·3	—	—
52 30	74·3	59·2		78·4		+·0009	+·0007	+ 2·1	− 0·2	+·0007
57 30	77·0	—		—		—	—	+ 4·0	—	—
04 02 30	78·4	58·7	60·2	80·3	61·5	+·0008	+·0008	+ 4·9	0·0	+·0008
07 30	77·5	—		—		—	—	+ 4·2	—	—
12 30	75·2	57·5		81·4		+·0007	+·0008	+ 2·5	+ 0·1	+·0008
17 30	73·5	—		—		—	—	+ 1·2	—	—
22 30	71·7	58·7		79·5		+·0008	+·0008	− 0·1	0·0	+·0008
27 30	71·0	—		—		—	—	− 0·6	—	—
32 30	70·5	58·3		74·4		+·0007	+·0006	− 1·1	− 0·1	+·0006
37 30	69·8	—		—		—	—	− 1·6	—	—
42 30	70·5	55·9		72·1		+·0004	+·0006	− 1·1	+ 0·2	+·0006
47 30	70·3	—		—		—	—	− 1·3	—	—
52 30	69·5	53·3		72·4		+·0001	+·0006	− 2·0	+ 0·5	+·0005
57 30	70·5	—		—		—	—	− 1·3	—	—
05 02 30	72·4	51·5	60·0	75·4	62·4	−·0001	+·0008	0·0	+ 1·0	+·0007
07 30	73·3	—		—		—	—	+ 0·6	—	—
12 30	73·3	50·3		84·9		−·0003	+·0011	+ 0·6	+ 1·5	+·0010
17 30	72·8	—		—		—	—	+ 0·3	—	—
22 30	72·0	51·5		86·2		−·0002	+·0012	− 0·4	+ 1·5	+·0011
27 30	71·4	—		—		—	—	− 0·8	—	—
32 30	70·8	50·2		77·7		−·0004	+·0008	− 1·2	+ 1·3	+·0007
37 30	70·2	—		—		—	—	− 1·6	—	—
42 30	70·3	49·6		77·7		−·0005	+·0008	− 1·5	+ 1·4	+·0007
47 30	70·9	—		—		—	—	− 1·1	—	—
52 30	72·1	50·1		78·6		−·0005	+·0008	− 0·4	+ 1·4	+·0007
57 30	73·1	—		—		—	—	+ 0·4	—	—
06 02 30	74·0	51·5	59·0	79·7	61·8	−·0003	+·0008	+ 1·0	+ 1·2	+·0007
07 30	73·7	—		—		—	—	+ 0·8	—	—
12 30	73·5	52·6		78·0		−·0002	+·0008	+ 0·7	+ 1·1	+·0007
17 30	73·0	—		—		—	—	+ 0·4	—	—
22 30	72·7	54·0		76·3		−·0001	+·0007	+ 0·1	+ 0·9	+·0006
27 30	72·1	—		—		—	—	− 0·2	—	—
32 30	71·2	55·3		75·3		+·0001	+·0006	− 0·8	+ 0·5	+·0005
37 30	70·4	—		—		—	—	− 1·4	—	—
42 30	70·3	—		—		—	—	− 1·4	—	—
47 30	69·9	—		—		—	—	− 1·7	—	—
52 30	69·4	—		—		—	—	− 2·0	—	—
57 30	69·6	—		—		—	—	− 1·8	—	—
07 02 30	70·0	55·2	59·0	72·5	60·8	+·0001	+·0005	− 1·5	+ 0·4	+·0005
07 30	69·5	—		—		—	—	− 1·9	—	—
12 30	69·5	53·9		74·5		−·0001	+·0005	− 2·0	+ 0·7	+·0004
17 30	69·6	—		—		—	—	− 1·9	—	+
22 30	69·3	53·2		75·7		−·0002	+·0005	− 2·1	+ 0·8	+·0004
27 30	69·8	—		—		—	—	− 1·8	—	+
32 30	70·1	53·1		79·3		−·0003	+·0007	− 1·6	+ 1·1	+·0006
37 30	70·6	—		—		—	—	− 1·3	—	—
42 30	70·8	53·1		81·7		−·0003	+·0008	− 1·1	+ 1·2	+·0007
47 30	70·2	—		—		—	—	− 1·5	—	—
52 30	70·0	52·9		82·9		−·0003	+·0008	− 1·8	+ 1·2	+·0007
57 30	69·8	—		—		—	—	− 1·9	—	—
08 02 30	70·1	53·0	58·0	83·4	60·5	−·0004	+·0008	− 1·7	+ 1·3	+·0007
07 30	70·6	—		—		—	—	− 1·3	—	—
12 30	71·0	53·7		86·6		−·0003	+·0009	− 1·1	+ 1·4	+·0008
17 30	70·8	—		—		—	—	− 1·2	—	—
22 30	70·0	53·1		86·0		−·0004	+·0008	− 1·8	+ 1·2	+·0007
27 30	69·8	—		—		—	—	− 1·9	—	—
32 30	69·5	52·5		85·9		−·0006	+·0008	− 2·1	+ 1·4	+·0007
37 30	69·9	—		—		—	—	− 1·8	—	—
42 30	70·5	52·2		88·0		−·0006	+·0008	− 1·4	+ 1·4	+·0007
47 30	70·5	—		—		—	—	− 1·4	—	—

1842. Van Diemen Island.

April 21.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. 30s. before, and the V. F. 5m. before the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
						$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta \dot{\psi}$	$\Delta \theta$	$\frac{\Delta \phi}{\phi}$
D. H. M. S.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
21 08 52 30	70·9	52·8		89·0		−·0006	+·0008	− 1·1	+ 1·6	+·0006
57 30	71·4	—		—		—	—	− 0·8	—	—
09 02 30	71·2	54·3	57·5	89·9	59·2	−·0005	+·0008	− 0·9	+ 1·5	+·0007
07 30	71·5	—		—		—	—	− 0·6	—	—
12 30	71·5	55·2		89·8		−·0004	+·0007	− 0·5	+ 1·3	+·0006
17 30	71·5	—		—		—	—	− 0·4	—	—
22 30	71·6	55·2		88·4		−·0004	+·0007	− 0·3	+ 1·2	+·0006
27 30	70·6	—		—		—	—	− 0·9	—	—
32 30	71·2	55·2		88·2		−·0004	+·0007	− 0·4	+ 1·2	+·0006
37 30	70·7	—		—		—	—	− 0·6	—	—
42 30	71·3	58·0		88·7		−·0001	+·0007	− 0·1	+ 0·9	+·0006
47 30	70·8	—		—		—	—	− 0·4	—	—
52 30	70·8	59·2		87·4		+·0001	+·0006	− 0·3	+ 0·5	+·0005
57 30	70·2	—		—		—	—	− 0·6	—	—

1842. Toronto.

April 20.

For Mean Monthly Readings, *see* page 28.

TORONTO, 1842. APRIL 20—21.

D. H. M.										
20 10 00(*a*)	129·2	442·8	57·8	85·3	57·2	−·0003	−·0001	+ 2·2	+ 0·2	−·0001
06	129·1	443·4		84·9		−·0002	−·0001	+ 1·9	+ 0·1	−·0001
12	129·1	442·9		84·6		−·0002	−·0001	+ 1·8	+ 0·1	−·0001
18	129·4	439·0		84·6		−·0004	−·0001	+ 1·9	+ 0·2	−·0001
24	129·2	447·5		85·0		+·0003	−·0001	+ 1·6	− 0·3	−·0001
30	129·5	442·6		84·7		·0000	−·0001	+ 1·7	− 0·1	−·0001
36	129·0	442·2		84·3		·0000	−·0001	+ 1·3	− 0·1	−·0001
42	129·2	439·5		84·3		−·0001	−·0001	+ 1·3	0·0	−·0001
48	129·5	439·7		84·3		·0000	−·0001	+ 1·3	− 0·1	−·0001
54	129·8	442·5		84·3		+·0002	−·0001	+ 1·5	− 0·2	−·0001
11 00	129·7	441·0	59·8	84·4	58·0	+·0002	·0001	+ 1·3	− 0·2	−·0001
06	130·1	444·9		84·7		+·0005	·0000	+ 1·4	− 0·4	·0000
12	130·0	442·6		84·1		+·0004	−·0001	+ 1·3	− 0·4	−·0001
18	129·4	440·1		83·9		+·0002	−·0001	+ 0·7	− 0·2	−·0001
24	130·0	441·0		84·2		+·0003	−·0001	+ 1·0	− 0·3	−·0001
30	130·0	440·1		83·9		+·0002	−·0001	+ 0·8	− 0·2	−·0001
36	130·5	436·1		84·1		·0000	−·0001	+ 1·1	− 0·1	−·0001
42	130·7	435·5		84·3		−·0001	·0000	+ 1·1	+ 0·1	·0000
48	131·0	434·5		83·9		−·0001	−·0001	+ 1·2	0·0	−·0001
54	131·0	429·8		83·5		−·0004	−·0001	+ 1·1	+ 0·2	−·0001
12 00	131·0	425·4	60·2	83·6	58·7	−·0007	−·0001	+ 1·0	+ 0·5	−·0001
06	131·8	424·7		83·6		−·0008	−·0001	+ 1·5	+ 0·6	−·0001
12	132·3	425·8		84·2		−·0007	·0000	+ 1·8	+ 0·6	·0000
18	132·2	425·6		84·4		−·0007	·0000	+ 1·7	+ 0·6	·0000
24	131·9	424·4		84·4		−·0007	·0000	+ 1·5	+ 0·6	·0000
30	131·4	421·2		83·9		− 0009	·0000	+ 1·1	+ 0·8	−·0001
36	133·4	420·5		84·0		−·0010	·0000	+ 2·6	+ 0·9	−·0001
42	133·7	423·0		84·5		−·0008	+·0001	+ 2·7	+ 0·8	·0000
48	134·7	428·1		84·5		−·0004	+·0001	+ 3·4	+ 0·3	+·0001
54	134·2	431·4		84·3		−·0001	+·0001	+ 3·0	+ 0·2	+ 0001
13 00	134·1	429·5	60·0	84·0	59·0	−·0002	+·0001	+ 2·9	+ 0·2	+·0001
06	133·2	429·1		83·7		−·0002	·0000	+ 2·2	+ 0·2	·0000
12	134·6	433·2		84·7		+·0001	+·0001	+ 3·2	0·0	+·0001
18	138·6	453·3		83·2		+·0016	·0000	+ 6·0	− 1·4	+·0001
24	141·4	443·0		82·6		+·0009	−·0001	+ 8·0	− 0·9	·0000
30	142·3	443·1		83·0		+·0009	·0000	+ 8·5	− 0·8	+·0001
36	140·8	439·9		83·1		+·0007	·0000	+ 7·5	− 0·6	·0000
42	138·8	436·9		83·2		+·0005	·0000	+ 6·0	− 0·3	·0000
48	136·7	433·3		82·7		+·0002	·0000	+ 4·4	− 0·2	·0000
54	133·9	424·6		83·0		−·0004	·0000	+ 2·4	+ 0·3	·0000
14 00	133·1	428·7	59·7	83·2	59·3	−·0001	+·0001	+ 1·8	+ 0·2	+·0001
06	134·0	436·5		83·6		+·0005	+·0001	+ 2·4	− 0·3	+·0001
12	134·8	433·1		83·0		+·0003	+·0001	+ 3·0	− 0·2	+·0001

(*a*) The H. F. was observed 2m. after, and the V. F. 4m. after the times specified.

1842.
Toronto.

April 20.

OBSERVATIONS OF THE MAGNETOMETERS. The H. F. was observed 2m. after, and the V. F. 4m. after the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta \psi$	$\Delta \theta$	$\frac{\Delta \phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
20 14 18	132·2	419·4		83·9		−·0008	+·0002	+ 1·0	+ 0·9	+·0001
24	131·9	422·3		84·0		−·0005	+·0002	+ 0·8	+ 0·6	+·0002
30	131·0	420·5		84·0		−·0007	+·0002	+ 0·1	+ 0·8	+·0001
36	131·9	427·0		84·0		−·0002	+·0002	+ 0·6	+ 0·3	+·0002
42	133·3	429·3		83·3		·0000	+·0001	+ 1·6	+ 0·1	+·0001
48	132·5	423·9		82·8		−·0004	+·0001	+ 1·0	+ 0·4	+·0001
54	132·2	419·1		83·7		−·0007	+·0002	+ 0·8	+ 0·8	+·0001
15 00	132·7	415·7	59·2	83·7	59·2	−·0010	+·0002	+ 1·1	+ 1·0	+·0001
06	137·8	413·9		82·4		−·0011	+·0001	+ 4·7	+ 1·0	·0000
12	140·9	413·7		82·6		−·0012	+·0001	+ 6·9	+ 1·1	·0000
18	139·7	414·3		83·2		−·0011	+·0002	+ 6·0	+ 1·1	+·0001
24	141·7	425·9		80·3		−·0002	−·0001	+ 7·4	+ 0·1	−·0001
30	143·0	426·6		74·6		−·0002	−·0006	+ 8·3	− 0·3	−·0006
36	132·8	419·9		70·8		−·0007	−·0010	+ 0·9	− 0·2	−·0010
42	126·9	411·9		68·9		−·0013	−·0011	− 3·4	+ 0·2	−·0011
48	117·6	394·2		64·9		−·0026	−·0015	−10·1	+ 0·9	−·0016
54	121·5	386·2		66·1		−·0032	−·0014	− 7·3	+ 1·5	−·0015
16 00	127·4	401·5	58·6	69·9	59·0	−·0020	−·0010	− 3·1	+ 0·9	−·0011
06	131·1	397·7		73·2		−·0023	−·0007	− 0·5	+ 1·4	−·0008
12	141·1	389·1		76·2		−·0030	−·0004	+ 6·6	+ 2·2	−·0006
18	162·3	396·6		75·1		−·0025	−·0005	+21·7	+ 1·7	−·0006
24	171·4	410·6		74·0		−·0015	−·0006	+28·2	+ 0·8	−·0007
30	171·3	422·2		71·1		−·0006	−·0009	+28·0	− 0·2	−·0003
36	161·2	414·5		69·1		−·0012	−·0010	+20·7	+ 0·2	−·0010
42	154·1	417·9		73·6		−·0010	−·0006	+15·5	+ 0·3	−·0006
48	151·1	430·7		74·6		−·0001	−·0005	+13·3	− 0·3	−·0005
54	146·9	425·8		74·6		−·0005	−·0005	+10·1	0·0	−·0005
17 00	142·8	424·6	58·2	76·8	58·5	−·0006	−·0003	+ 7·1	+ 0·2	−·0003
06	141·1	423·4		79·0		−·0007	−·0001	+ 5·8	+ 0·5	−·0001
12	141·3	425·6		79·8		−·0006	·0000	+ 5·9	+ 0·5	·0000
18	140·9	424·7		80·4		−·0007	+·0001	+ 5·4	+ 0·7	+·0001
24	139·5	429·1		81·5		−·0004	+·0002	+ 4·3	+ 0·5	+·0002
30	133·6	429·7		81·0		−·0004	+·0002	+ 2·2	+ 0·5	+·0002
36	134·4	431·0		81·5		−·0003	+·0003	+ 0·5	+ 0·5	+·0003
42	133·5	428·5		81·5		−·0005	+·0003	− 0·2	+ 0·7	+·0003
48	133·0	429·0		81·8		−·0005	+·0003	− 0·7	+ 0·7	+·0003
54	133·4	427·5		81·8		−·0006	+·0003	− 0·5	+ 0·8	+·0002
18 00	135·0	426·0	57·8	81·8	58·2	−·0008	+·0003	+ 0·6	+ 0·9	+·0002
06	136·3	428·9		82·9		−·0005	+·0004	+ 1·5	+ 0·8	+·0003
12	136·1	429·9		83·1		−·0005	+·0004	+ 1·3	+ 0·8	+·0003
18	136·2	431·1		84·2		−·0004	+·0005	+ 1·5	+ 0·8	+·0004
24	136·1	435·0		84·6		·0000	+·0006	+ 1·4	+ 0·5	+·0006
30	133·9	436·1		84·4		+·0001	+·0005	− 0·1	+ 0·3	+·0005
36	134·2	435·9		84·4		+·0001	+·0005	+ 0·1	+ 0·3	+·0005
42	133·3	433·3		84·4		−·0001	+·0005	− 0·6	+ 0·5	+·0005
48	133·2	436·9		84·6		+·0002	+·0006	− 0·6	+ 0·3	+·0006
54	132·2	439·1		84·4		+·0003	+·0005	− 1·3	+ 0·2	+·0005
19 00	132·1	437·9	57·6	84·2	58·2	+·0003	+·0005	− 1·3	+ 0·2	+·0005
06	131·6	434·4		82·9		·0000	+·0004	− 1·7	+ 0·3	+·0004
12	130·5	417·2		79·2		−·0012	+·0001	− 2·5	+ 1·1	·0000
18	126·9	411·3		78·3		−·0017	−·0001	− 5·0	+ 1·4	−·0002
24	126·9	406·5		76·1		−·0020	−·0003	− 5·0	+ 1·4	−·0004
30	129·3	416·9		78·2		−·0012	−·0001	− 3·3	+ 0·9	−·0002
36	126·8	416·5		76·9		−·0012	−·0002	− 5·0	+ 0·9	−·0003
42	114·0	419·9		75·4		−·0010	−·0003	−14·3	+ 0·6	−·0003
48	108·1	418·9		72·8		−·0010	−·0006	−18·5	+ 0·3	−·0006
54	108·9	416·2		72·0		−·0012	−·0007	−17·9	+ 0·4	−·0007
20 00	111·3	422·4	57·4	73·8	58·0	−·0007	−·0005	−16·1	+ 0·2	−·0005
06	115·2	415·0		71·4		−·0013	−·0007	−13·5	+ 0·5	−·0007
12	119·7	417·6		70·9		−·0011	−·0008	−10·3	+ 0·2	−·0008
18	121·7	411·3		70·7		−·0016	−·0008	− 9·0	+ 0·7	−·0008
24	124·1	422·3		73·6		−·0008	−·0005	− 7·3	+ 0·2	−·0005

1842.
Toronto.

April 20—21.

OBSERVATIONS OF THE MAGNETOMETERS. The H. F. was observed 2m. after, and the V. F. 4m. after the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta \psi$	$\Delta \theta$	$\frac{\Delta \phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force
20 20 30	126·9	437·0		73·6		+·0002	−·0006	− 5·4	− 0·7	−·0006
36	130·0	445·5		74·7		+·0008	−·0005	− 3·4	− 1·1	−·0004
42	129·9	449·0		74·7		+·0011	−·0005	− 3·5	− 1·4	−·0004
48	131·2	451·5		74·0		+·0012	−·0005	− 2·8	− 1·4	−·0004
54	132·1	443·3		74·0		+·0006	−·0006	− 2·2	− 1·0	−·0005
21 00	133·6	443·1	56·6	74·0	57·7	+·0006	−·0006	− 1·2	− 1·0	−·0005
06	135·1	441·6		76·6		+·0004	−·0003	− 0·3	− 0·6	−·0003
12	136·6	438·7		77·0		+·0002	−·0003	+ 0·7	− 0·4	−·0003
18	137·7	438·2		77·7		+·0001	−·0002	+ 1·3	− 0·2	−·0002
24	139·4	442·0		79·7		+·0004	−·0001	+ 2·6	− 0·4	−·0001
30	141·2	445·4		80·9		+·0006	·0000	+ 3·7	− 0·5	·0000
36	140·5	444·4		81·2		+·0005	+·0001	+ 3·1	− 0·3	+·0001
42	140·6	443·6		81·7		+·0004	+·0001	+ 3·0	− 0·2	+·0001
48	141·8	444·2		82·2		+·0005	+·0001	+ 3·8	− 0·3	+·0001
54	140·2	444·0		82·2		+·0004	+·0001	+ 2·6	− 0·2	+·0001
22 00	139·9	443·1	56·0	83·0	57·2	+·0004	+·0002	+ 2·3	− 0·2	+·0002
06	141·8	447·1		83·5		+·0006	+·0002	+ 3·6	− 0·3	+·0002
12	140·3	445·4		83·3		+·0005	+·0002	+ 2·6	− 0·2	+·0002
18	139·7	442·4		82·7		+·0003	+·0001	+ 2·2	− 0·2	+·0001
24	141·1	438·3		81·8		·0000	·0000	+ 3·3	0·0	·0000
30	142·8	439·1		81·8		·0000	·0000	+ 4·4	0·0	·0000
36	144·1	436·8		81·3		−·0002	−·0001	+ 5·4	+ 0·1	−·0001
42	145·6	436·8		81·1		−·0002	−·0001	+ 6·6	+ 0·1	−·0001
48	145·7	435·1		80·1		−·0003	−·0001	+ 6·6	+ 0·2	−·0001
54	146·2	433·7		80·8		−·0004	−·0001	+ 7·1	+ 0·2	−·0001
23 00	145·5	427·2	55·5	80·5	56·7	−·0009	−·0002	+ 6·6	+ 0·6	−·0002
06	142·8	429·1		81·1		−·0008	−·0001	+ 4·6	+ 0·6	−·0001
12	142·1	429·3		82·3		−·0008	·0000	+ 4·2	+ 0·7	·0000
18	140·0	430·6		83·5		−·0007	+·0001	+ 2·7	+ 0·7	+·0001
24	136·1	431·1		83·5		−·0006	·0000	− 0·1	+ 0·5	·0000
30	133·4	425·2		83·5		−·0011	·0000	− 2·0	+ 0·9	−·0001
36	128·5	416·9		82·0		−·0017	−·0001	− 5·5	+ 1·4	−·0002
42	126·5	410·3		81·1		−·0022	−·0002	− 6·9	+ 1·7	−·0003
48	124·9	404·0		80·3		−·0026	−·0003	− 8·0	+ 1·9	−·0005
54	125·0	406·3		80·3		−·0025	−·0003	− 7·9	+ 1·9	−·0004
21 00 00	127·3	414·9	55·5	80·3	56·1	−·0018	−·0004	− 6·3	+ 1·2	−·0005
06	128·3	412·8		78·8		−·0019	−·0005	− 5·5	+ 1·2	−·0006
12	131·2	417·9		79·1		−·0015	−·0004	− 3·5	+ 0·9	−·0005
18	130·6	422·7		79·3		−·0011	−·0004	− 4·0	+ 0·6	−·0004
24	130·0	425·9		79·9		−·0009	−·0004	− 4·4	+ 0·4	−·0004
30	130·4	425·2		80·8		−·0009	−·0003	− 4·2	+ 0·5	−·0003
36	131·7	431·5		81·9		−·0004	−·0002	− 3·3	+ 0·2	−·0002
42	131·4	430·4		81·5		−·0004	−·0002	− 3·5	+ 0·2	−·0002
48	133·9	438·0		81·2		+·0002	−·0002	− 1·7	− 0·3	−·0002
54	133·5	432·0		80·8		−·0003	−·0003	− 2·0	0·0	−·0003
01 00	135·1	438·7	56·5	81·3	57·1	+·0003	−·0002	− 0·9	− 0·4	−·0002
06	135·7	435·8		81·6		+·0001	−·0002	− 0·5	− 0·2	−·0002
12	136·4	439·2		81·2		+·0004	−·0002	− 0·1	− 0·5	−·0002
18	136·6	442·3		81·1		+·0007	−·0002	+ 0·1	− 0·8	−·0001
24	135·4	441·6		81·3		+·0007	−·0002	− 0·8	− 0·8	−·0001
30	135·0	442·9		80·3		+·0008	−·0003	− 1·1	− 0·9	−·0002
36	135·0	439·6		80·2		+·0007	−·0003	− 1·1	− 0·9	−·0002
42	136·0	441·4		80·6		+·0008	−·0002	− 0·5	− 0·9	−·0001
48	137·0	443·6		80·6		+·0011	−·0002	+ 0·2	− 1·1	−·0001
54	136·2	443·4		80·6		+·0011	−·0002	− 0·4	− 1·1	−·0001
02 00	136·5	442·0	58·2	80·3	58·0	+·0010	−·0002	− 0·2	− 1·0	−·0001
06	136·4	438·5		80·3		+·0008	−·0002	− 0·1	− 0·9	−·0001
12	136·8	438·2		80·3		+·0009	−·0002	+ 0·3	− 0·9	−·0001
18	136·1	434·5		79·9		+·0007	−·0002	− 0·1	− 0·8	−·0001
24	136·0	430·5		79·6		+·0004	−·0003	0·0	− 0·6	−·0003
30	136·0	427·3		79·4		+·0002	−·0003	+ 0·1	− 0·4	−·0003
36	135·8	426·8		79·5		+·0003	−·0002	+ 0·1	− 0·4	−·0002

1842.
Toronto.

April 21.

OBSERVATIONS OF THE MAGNETOMETERS.

The H. F. was observed 2m. after, and the V. F. 4m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
						$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta \psi$	$\Delta \theta$	$\frac{\Delta \phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
21 02 42	134·8	422·3		79·5		·0000	−·0002	− 0·5	− 0·2	−·0002
48	133·8	421·7		79·5		·0000	−·0002	− 1·1	− 0·2	−·0002
54	131·7	417·1		79·5		−·0003	−·0002	− 2·5	+ 0·1	−·0002
03 00	129·6	417·8	59·4	79·7	58·8	−·0002	−·0002	− 3·8	0·0	−·0002
06	127·9	418·8		79·7		·0000	−·0002	− 4·9	− 0·2	−·0002
12	126·9	415·8		79·4		−·0002	−·0002	− 5·4	0·0	−·0002
18	127·9	412·1		79·2		−·0005	−·0002	− 4·6	+ 0·2	−·0002
24	128·9	409·9		79·2		−·0006	−·0002	− 3·7	+ 0·3	−·0002
30	129·1	409·0		79·2		−·0006	−·0002	− 3·5	+ 0·3	−·0002
36	129·2	403·6		79·6		−·0010	−·0002	− 3·3	+ 0·7	−·0002
42	127·2	401·1		79·5		−·0011	−·0002	− 4·5	+ 0·8	−·0003
48	124·6	396·7		78·8		−·0014	−·0003	− 6·3	+ 0·9	−·0004
54	125·3	393·1		78·9		−·0016	−·0003	− 5·6	+ 1·1	−·0004
04 00	124·5	395·4	59·8	79·4	58·7	−·0014	−·0002	− 6·1	+ 1·0	−·0003
06	126·0	399·7		80·0		−·0011	−·0001	− 4·7	+ 0·9	−·0002
12	126·9	403·5		80·0		−·0008	−·0001	− 3·8	+ 0·6	−·0001
18	125·3	406·1		80·3		−·0006	−·0001	− 4·7	+ 0·4	−·0001
24	124·7	408·4		80·8		−·0005	−·0001	− 4·9	+ 0·3	−·0001
30	125·0	412·6		81·6		−·0002	·0000	− 4·4	+ 0·2	·0000
36	124·9	416·1		81·6		+·0001	·0000	− 4·3	− 0·1	·0000
42	126·7	420·6		82·2		+·0004	+·0001	− 2·8	− 0·2	+·0001
48	125·3	422·1		81·8		+·0005	+·0001	− 3·6	− 0·3	+·0001
54	123·7	419·0		80·5		+·0003	−·0001	− 4·4	− 0·3	−·0001
05 00	123·5	415·2	60·5	80·1	59·3	·0000	−·0001	− 4·4	− 0·1	−·0001
06	122·4	414·1		79·6		−·0001	−·0001	− 4·9	0·0	−·0001
12	123·0	410·7		79·9		−·0003	−·0001	− 4·2	+ 0·2	−·0001
18	123·4	415·5		80·1		+·0001	−·0001	− 3·7	− 0·2	−·0001
24	123·1	418·1		80·2		+ 0003	−·0001	− 3·7	− 0·3	−·0001
30	122·9	417·7		80·6		+·0002	·0000	− 3·6	− 0·2	·0000
36	124·0	421·1		81·0		+·0005	·0000	− 2·6	− 0·4	·0000
42	124·7	421·4		81·0		+·0005	·0000	− 1·8	− 0·4	·0000
48	124·9	425·2		81·3		+·0008	+·0001	− 1·5	− 0·6	+·0001
54	125·5	426·5		81·6		+·0009	+·0001	− 0·8	− 0·7	+·0001
06 00	126·0	424·4	61·5	81·6	59·7	+·0008	+·0001	− 0·2	− 0·6	+·0001
06	124·8	420·2		81·4		+·0004	+·0001	− 1·0	− 0·2	+·0001
12	124·3	419·3		81·1		+·0004	+·0001	− 1·3	− 0·2	+·0001
18	124·2	420·7		81·4		+·0004	+·0001	− 1·3	− 0·2	+·0001
24	124·4	424·2		81·4		+·0007	+·0001	− 1·1	− 0·5	+·0001
30	123·8	422·0		81·4		+·0005	+·0001	− 1·5	− 0·3	+·0001
36	123·2	422·4		81·4		+·0005	+·0001	− 1·9	− 0·3	+·0001
42	122·0	422·8		81·4		+·0005	+·0001	− 2·8	− 0·3	+·0001
48	121·0	422·9		81·4		−·0005	+·0001	− 3·4	− 0·3	+·0001
54	120·1	423·0		80·9		−·0005	+·0001	− 4·0	− 0·3	+·0001
07 00	119·4	421·2	62·6	80·5	60·7	−·0003	·0000	− 4·4	− 0·2	·0000
06	119·5	421·9		80·5		−·0003	·0000	− 4·3	− 0·2	·0000
12	120·3	427·0		81·0		−·0007	+·0001	− 3·7	− 0·5	+·0001
18	120·0	425·1		80·2		−·0005	·0000	− 3·9	− 0·4	·0000
24	120·5	420·6		79·5		−·0002	−·0001	− 3·5	− 0·2	−·0001
30	121·5	422·0		79·5		−·0003	−·0001	− 2·7	− 0·3	−·0001
36	123·0	423·5		79·5		−·0003	−·0001	− 1·5	− 0·3	−·0001
42	124·1	426·0		79·5		−·0005	−·0001	− 0·6	− 0·5	−·0001
48	124·2	424·5		79·7		−·0004	−·0001	− 0·6	− 0·4	−·0001
54	125·0	425·7		79·7		−·0004	−·0001	+ 0·1	− 0·4	−·0001
08 00	125·0	422·4	63·5	79·0	61·5	−·0002	−·0001	+ 0·1	− 0·2	−·0001
06	125·1	422·9		79·0		−·0002	−·0001	+ 0·1	− 0·2	−·0001
12	126·0	425·5		79·3		−·0004	−·0001	+ 0·8	− 0·4	−·0001
18	126·7	427·7		79·3		−·0006	−·0001	+ 1·2	− 0·6	−·0001
24	126·0	423·2		78·5		−·0002	−·0002	+ 0·6	− 0·3	−·0002
30	125·5	419·7		78·5		·0000	−·0002	+ 0·2	− 0·2	−·0002
36	125·7	419·2		77·9		−·0001	−·0002	+ 0·4	− 0·1	−·0002
42	125·8	421·7		77·9		+·0001	−·0002	+ 0·4	− 0·2	−·0002
48	126·9	427·1		78·5		+·0005	−·0001	+ 1·1	− 0·5	−·0001

1842. Toronto.

April 21.

OBSERVATIONS OF THE MAGNETOMETERS. The H. F. was observed 2m. after, and the V. F. 4m. after the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	″	Parts of Total Force.
21 08 54	127·7	430·2		78·5		+·0007	−·0001	+ 1·6	− 0·7	−·0001
09 00	128·4	428·1	64·5	78·5	62·3	+·0006	−·0001	+ 2·0	− 0·6	−·0001
06	129·1	433·0		78·5		+·0009	−·0001	+ 2·6	− 0·9	·0000
12	129·6	434·4		78·5		+·0010	−·0001	+ 2·9	− 0·9	·0000
18	129·5	438·7		78·5		+·0014	−·0001	+ 2·8	− 1·3	·0000
24	129·0	436·9		77·8		+·0012	−·0001	+ 2·3	− 1·1	·0000
30	130·2	437·7		78·4		+·0013	−·0001	+ 3·1	− 1·2	·0000
36	129·9	444·6		79·2		+·0018	+·0001	+ 2·9	− 1·4	+·0002
42	129·6	445·7		79·1		+·0019	+·0001	+ 2·6	− 1·5	+·0002
48	129·3	444·9		78·9		+·0018	+·0001	+ 2·3	− 1·4	+·0002
54	129·1	438·5		78·1		+·0013	·0000	+ 2·2	− 1·1	+·0001

1842. Cape of Good Hope.

April 24—25.

For Mean Monthly Readings, *see* page 24.

CAPE OF GOOD HOPE, 1842. APRIL 24—25.

24 19 02(a)	—	92·5	62·5	57·1	62·6	+·0001	−·0004	—	− 0·8	−·0002
26	41·7	92·9		59·2		+·0001	−·0003	− 0·9	− 0·7	−·0002
32	42·7	93·0		59·3		+·0001	−·0003	0·0	− 0·7	−·0002
38	41·3	93·0		60·1		+·0001	−·0002	− 1·0	− 0·5	−·0001
44	40·6	93·2		60·5		+·0001	−·0002	− 1·4	− 0·5	−·0001
50	40·4	93·1		61·8		+·0001	−·0001	− 1·4	− 0·3	·0000
56	40·2	93·9		60·8		+·0002	−·0002	− 1·4	− 0·7	−·0001
20 02	40·0	92·9	62·3	60·8	62·5	+·0001	−·0002	− 1·4	− 0·5	−·0001
08	39·5	93·7		61·0		+·0002	−·0002	− 1·6	− 0·7	−·0001
14	39·5	93·3		61·0		+·0002	−·0001	− 1·4	− 0·5	·0000
20	39·0	93·3		61·0		+·0002	−·0001	− 1·7	− 0·5	·0000
26	39·3	93·9		61·0		+·0003	−·0001	− 1·4	− 0·7	·0000
32	39·2	94·0		61·0		+·0003	−·0001	− 1·3	− 0·7	·0000
38	39·0	93·7		60·6		+·0003	−·0001	− 1·3	− 0·7	·0000
44	38·6	93·6		60·6		+·0003	−·0001	− 1·4	− 0·7	·0000
50	38·3	93·8		60·5		+·0003	−·0001	− 1·6	− 0·7	·0000
56	38·1	93·8		60·7		+·0003	−·0001	− 1·6	− 0·7	·0000
21 02	38·1	93·7	62·5	60·0	62·6	+·0003	−·0001	− 1·4	− 0·7	·0000
08	38·0	93·5		59·8		+·0003	−·0001	− 1·5	− 0·7	·0000
14	37·7	94·0		59·3		+·0004	−·0001	− 1·8	− 0·8	−·0001
20	37·7	94·2		58·5		+·0005	−·0002	− 1·8	− 1·2	·0000
26	37·9	93·7		58·1		+·0004	−·0001	− 1·7	− 0·8	+·0001
32	38·0	93·4		57·8		+·0004	−·0001	− 1·7	− 0·8	+·0001
38	38·1	93·3		57·5		+·0004	−·0001	− 1·6	− 0·8	+·0001
44	38·0	93·0		56·8		+·0004	−·0001	− 1·7	− 0·8	+·0001
50	38·3	93·0		55·9		+·0004	−·0002	− 1·5	− 1·0	·0000
56	38·2	92·9		55·1		+·0004	−·0002	− 1·7	− 1·0	·0000
22 02	38·5	92·8	62·7	53·9	62·8	+·0004	−·0003	− 1·4	− 1·2	−·0001
08	38·8	92·9		52·7		+·0005	−·0004	− 1·4	− 1·5	−·0001
14	39·1	92·5		52·3		+·0004	−·0004	− 1·3	− 1·3	−·0001
20	39·2	92·4		52·0		+·0004	−·0004	− 1·4	− 1·3	−·0001
26	39·8	92·0		51·4		+·0004	−·0005	− 1·1	− 1·5	−·0002
32	40·0	92·0		50·5		+·0004	−·0005	− 1·1	− 1·5	−·0002
38	40·2	91·8		50·2		+·0004	−·0005	− 1·1	− 1·5	−·0002
44	40·7	91·8		50·5		+·0005	−·0004	− 0·8	− 1·5	−·0001
50	41·1	91·6		51·1		+·0005	−·0003	− 0·7	− 1·3	·0000
56	41·5	91·3		51·1		+·0005	−·0003	− 0·5	− 1·3	·0000
23 02	41·9	91·0	63·0	51·1	63·3	+·0004	−·0003	− 0·4	− 1·2	−·0001
08	42·2	—		—		—	—	− 0·3	—	—
25 00 02	44·8	91·3	63·7	47·2	63·7	+·0007	−·0005	+ 0·2	− 2·0	−·0001

(a) The Declination was observed 2m. before and the V. F. 2m. after the times specified.

1842.
Cape of Good Hope.

May 1 and 4.

CAPE OF GOOD HOPE, 1842. MAY 1, 4—6.

MEAN MONTHLY READINGS OF THE MAGNETOMETERS.

Mean Göttingen Time.	Declination.	H. F. at 63°·2.	V. F. at 63°·2.	Mean Göttingen Time.	Declination.	H. F. at 63°·2.	V. F. at 63°·2.
Hours.	Sc. Div.	Sc. Div.	Sc. Div.	Hours.	Sc. Div.	Sc. Div.	Sc. Div.
00	43·9	91·0	47·2	12	45·0	89·8	50·6
01	44·8	89·8	48·0	13	45·2	90·1	50·4
02	45·1	89·3	50·0	14	45·2	90·2	50·3
03	45·2	90·1	51·1	15	45·4	90·5	50·3
04	44·6	90·4	52·7	16	45·4	90·9	50·2
05	44·0	89·8	53·2	17	45·5	90·8	49·9
06	44·1	89·5	53·0	18	46·0	91·4	45·5
07	44·4	89·2	52·3	19	46·3	92·6	49·7
08	44·5	89·0	52·1	20	44·3	93·4	53·4
09	44·5	89·0	52·0	21	42·2	93·5	54·3
10	44·8	89·3	51·4	22	41·3	93·1	53·1
11	44·9	89·7	50·7	23	42·2	92·3	48·4

Coefficients (A), Approximate Absolute Values (B).

(A)
- Declin. $a = 0' \cdot 751$
- H. F. $a = \cdot 00018$, $q = \cdot 00028$
- V. F. $k = \cdot 00011$, $q = \cdot 00005$

(B) Approx.
- $\psi = 29° 05'$
- $X = 4 \cdot 46$
- $Y = 6 \cdot 00$
- $\theta = -53° 12'$
- $\phi = 7 \cdot 50$

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 2m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta \psi$	$\Delta \theta$	$\frac{\Delta \phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
1 20 02	42·4	94·5	64·8	58·2	63·6	+·0007	+·0006	− 1·4	− 0·2	+·0006
14	—	94·8		59·5		+·0005	+·0007	—	+ 0·3	+·0006
20	41·9	94·9		59·0		+·0005	+·0006	− 1·4	+ 0·2	+·0006
26	41·6	94·7		59·1		+·0005	+·0006	− 1·4	+ 0·2	+·0006
32	41·4	94·6		59·1		+·0004	+·0006	− 1·4	+ 0·3	+·0003
38	41·2	94·6		58·8		+·0004	+·0005	− 1·4	+ 0·2	+·0005
44	41·1	94·7		58·8		+·0004	+·0005	− 1·3	+ 0·2	+·0005
50	40·9	94·3		58·8		+·0003	+·0005	− 1·3	+ 0·3	+·0004
56	40·8	94·7		58·0		+·0004	+·0004	− 1·2	0·0	+·0004
21 02	40·6	94·5	63·9	59·1	63·5	+·0006	+·0006	− 1·2	+ 0·3	+·0005
08	40·5	94·6		59·0		+·0004	+·0006	− 1·2	+ 0·3	+·0005
14	40·3	94·8		58·1		+·0005	+·0005	− 1·3	0·0	+·0005
20	40·2	94·8		57·8		+·0005	+·0005	− 1·3	0·0	+·0005
26	40·2	94·8		57·6		+·0005	+·0005	− 1·2	0·0	+·0005
32	40·1	94·8		57·4		+·0005	+·0004	− 1·2	− 0·2	+·0004
38	40·2	94·7		56·8		+·0005	+·0004	− 1·1	− 0·2	+·0004
44	40·2	95·0		56·6		+·0005	+·0004	− 1·1	− 0·2	+·0004
50	40·2	94·7		56·2		+·0005	+·0004	− 1·0	− 0·2	+·0004
56	40·3	94·9		55·5		+·0005	+·0003	− 0·8	− 0·3	+·0004
22 02	40·2	94·7	63·9	54·6	63·8	+·0005	+·0003	− 0·8	− 0·3	+·0004
08	40·2	94·9		53·9		+·0005	+·0002	− 0·9	− 0·5	+·0003
14	40·2	94·5		53·5		+·0005	+·0002	− 1·0	− 0·5	+·0003
20	40·3	—		—		—	—	− 1·0	—	—
23 02	41·1	94·5	64·1	48·3	63·9	+·0002	·0000	− 1·4	− 0·3	+·0001
4 20 02	42·9	96·2	62·8	57·7	62·6	+·0004	+·0004	− 1·1	0·0	+·0004
08	42·7	96·3		58·6		+·0004	+·0005	− 1·1	+ 0·2	+·0005
14	41·9	96·7		59·2		+·0005	+·0006	− 1·5	+ 0·2	+·0006
20	41·7	96·8		59·2		+·0005	+·0006	− 1·5	+ 0·2	+·0006
26	41·1	96·7		59·3		+·0005	+·0006	− 1·8	+ 0·2	+·0006
32	40·6	96·2		59·9		+·0004	+·0006	− 2·0	+ 0·3	+·0005
38	40·5	95·9		60·7		+·0003	+·0007	− 1·9	+ 0·7	+·0006
44	39·6	95·9		60·7		+·0003	+·0007	− 2·4	+ 0·7	+·0006
50	39·8	96·5		60·7		+·0004	+·0007	− 2·1	+ 0·5	+·0006
56	39·7	96·6		59·7		+·0005	+·0006	− 2·0	+ 0·2	+·0006
21 02	39·5	—		—		—	—	− 2·0	—	—

1842.
Cape of Good Hope.

May 5—6.

OBSERVATIONS OF THE MAGNETOMETERS. The Declination was observed 2m. before, and the V. F. 2m. after the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta \psi$	$\Delta \theta$	$\frac{\Delta \phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm.	Sc. Div.	Therm.	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
5 20 02	44·4	100·3	61°·5	57·2	61°·6	+·0008	+·0003	− 0·8	− 0·8	+·0005
08	43·6	100·5		58·8		+·0011	+·0005	− 0·4	− 1·0	+·0007
14	43·1	100·4		59·3		+·0011	+·0005	− 0·6	− 1·0	+·0007
20	42·9	101·0		59·5		+·0012	+·0006	− 0·6	− 1·0	+·0008
26	42·6	100·5		59·5		+·0011	+·0005	− 0·7	− 1·0	+·0007
32	42·2	101·1		59·5		+·0012	+·0005	− 0·8	− 1·2	+·0007
38	42·0	100·8		59·5		+·0011	+·0005	− 0·8	− 1·0	+·0007
44	41·9	101·2		59·5		+·0012	+·0005	− 0·7	− 1·2	+·0007
50	41·4	100·9		59·7		+·0011	+·0005	− 0·9	− 1·0	+·0007
56	41·2	101·0		59·7		+·0012	+·0005	− 0·9	− 1·2	+·0007
21 02	41·2	100·4	61·5	59·4	61·6	+·0008	+·0005	− 0·8	− 0·5	+·0006
08	41·3	100·6		59·7		+·0008	+·0005	− 0·6	− 0·5	+·0006
14	41·3	101·0		60·8		+·0009	+·0007	− 0·5	− 0·3	+·0008
20	41·0	101·2		60·2		+·0009	+·0006	− 0·7	− 0·5	+·0007
26	40·9	100·9		60·2		+·0009	+·0007	− 0·7	− 0·5	+·0007
32	40·9	100·7		60·2		+·0009	+·0007	− 0·6	− 0·5	+·0008
38	40·5	100·4		60·2		+·0008	+·0007	− 0·9	− 0·2	+·0007
44	40·3	99·3		61·3		+·0007	+·0008	− 1·0	+ 0·2	+·0008
50	40·1	98·8		62·1		+·0006	+·0009	− 1·1	+ 0·5	+·0008
56	40·0	99·2		61·3		+·0007	+·0008	− 1·1	+ 0·2	+·0008
22 02	40·0	99·1	61·7	61·1	61·8	+·0007	+·0009	− 1·0	+ 0·3	+·0008
08	39·8	99·0		60·3		+·0007	+·0008	− 1·2	+ 0·2	+·0008
14	39·4	98·7		60·3		+·0006	+·0009	− 1·6	+ 0·5	+·0008
20	39·4	98·8		59·6		+·0007	+·0009	− 1·7	+ 0·3	+·0008
26	39·2	98·6		58·9		+·0006	+·0009	− 1·9	+ 0·5	+·0008
32	39·3	98·6		57·7		+·0007	+·0008	− 1·9	+ 0·2	+·0008
38	39·7	99·0		56·7		+·0007	+·0007	− 1·6	0·0	+·0007
44	39·9	99·6		55·6		+·0009	+·0006	− 1·5	− 0·5	+·0007
50	39·9	99·3		54·0		+·0008	+·0005	− 1·6	− 0·5	+·0006
56	40·0	99·5		53·9		+·0009	+·0006	− 1·6	− 0·5	+·0007
23 02	40·0	99·3	61·7	53·0	62·0	+·0009	+·0005	− 1·7	− 0·7	+·0006
08	40·1	98·6		53·5		+·0007	+·0005	− 1·7	− 0·3	+·0006
14	40·2	97·8		54·3		+·0007	+·0006	− 1·7	− 0·2	+·0006
20	40·2	97·1		54·3		+·0005	+·0007	− 1·9	+ 0·3	+·0006
26	40·8	97·3		54·1		+·0006	+·0006	− 1·6	0·0	+·0006
32	40·8	97·2		53·9		+·0006	+·0006	− 1·7	0·0	+·0006
38	41·1	97·2		53·3		+·0007	+·0006	− 1·6	− 0·2	+·0006
44	41·3	97·0		53·0		+·0007	+·0006	− 1·6	− 0·2	+·0006
50	41·9	97·0		53·0		+·0007	+·0006	− 1·3	− 0·2	+·0006
56	41·9	97·1		52·2		+·0007	+·0005	− 1·4	− 0·3	+·0006
6 00 02	42·1	97·2	62·0	50·6	62·0	+·0008	+·0003	− 1·4	− 0·8	+·0005
08	42·3	97·2		50·6		+·0008	+·0003	− 1·3	− 0·8	+·0005
14	42·5	96·7		50·6		+·0008	+·0003	− 1·2	− 0·8	+·0005
20	42·6	96·4		50·9		+·0008	+·0003	− 1·2	− 0·8	+·0005
26	42·7	96·3		50·8		+·0008	+·0003	− 1·2	− 0·8	+·0005
32	42·9	96·1		50·8		+·0008	+·0003	− 1·1	− 0·8	+·0005
38	43·0	95·8		50·8		+·0008	+·0003	− 1·1	− 0·8	+·0005
44	43·0	95·4		51·0		+·0007	+·0003	− 1·1	− 0·7	+·0004
50	43·0	95·2		51·1		+·0007	+·0003	− 1·2	− 0·7	+·0004
56	43·0	95·0		51·2		+·0007	+·0003	− 1·3	− 0·7	+·0004
01 02	43·0	94·8	62·6	51·2	62·6	+·0007	+·0003	− 1·4	− 0·7	+·0004
08	43·2	94·6		51·1		+·0007	+·0003	− 1·2	− 0·7	+·0004
14	43·4	94·3		51·4		+·0007	+·0003	− 1·1	− 0·7	+·0004
20	43·5	94·0		51·7		+·0007	+·0003	− 1·1	− 0·7	+·0004
26	43·7	93·7		52·3		+·0006	+·0003	− 0·9	− 0·5	+·0004
32	43·8	93·9		51·8		+·0007	+·0003	− 0·9	− 0·7	+·0004
38	44·0	93·6		52·0		+·0007	+·0003	− 0·8	− 0·7	+·0004
44	44·0	93·6		52·0		+·0007	+·0002	− 0·8	− 0·8	+·0004
50	44·3	93·8		50·9		+·0007	+·0001	− 0·5	− 1·0	+·0003
56	44·5	94·3		50·5		+·0008	·0000	− 0·5	− 1·3	+·0003
02 02	44·8	95·4	63·0	49·0	62·8	+·0010	−·0001	− 0·2	− 1·8	+·0003
08	45·0	95·7		48·1		+·0011	−·0003	− 0·1	− 2·3	+·0002
14	45·1	95·6		47·9		+·0010	−·0003	0·0	− 2·1	+·0002
20	45·4	95·9		47·5		+·0011	−·0003	+ 0·2	− 2·3	+·0002

1842.
Cape of Good Hope.
May 6.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 2m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
h. m.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
6 02 26	45·7	96·2		46·5		+·0011	−·0005	+ 0·5	− 2·6	+·0001
32	46·0	96·8		45·9		+·0012	−·0005	+ 0·6	− 2·8	+·0001
38	46·0	97·0		45·9		+·0012	−·0006	+ 0·6	− 3·0	·0000
44	46·0	97·3		46·4		+·0013	−·0005	+ 0·6	− 3·0	+·0001
50	46·1	97·7		45·5		+·0014	−·0006	+ 0·7	− 3·3	+·0001
56	46·1	95·9		47·1		+·0010	−·0004	+ 0·7	− 2·3	+·0001
03 02	46·3	95·4	63·4	48·3	63·1	+·0010	−·0003	+ 0·8	− 2·1	+·0002
08	46·3	94·1		49·7		+·0008	−·0002	+ 0·9	− 1·7	+·0002
14	45·9	93·0		51·6		+·0006	·0000	+ 0·6	− 1·0	+·0002
20	45·6	93·1		52·2		+·0006	+·0001	+ 0·5	− 0·8	+·0003
26	45·3	92·9		53·6		+·0006	+·0002	+ 0·2	− 0·7	+·0003
32	45·0	93·3		53·6		+·0007	+·0002	+ 0·1	− 0·8	+·0004
38	45·2	93·0		53·6		+·0006	+·0001	+ 0·3	− 0·8	+·0003
44	45·3	91·6		51·1		+·0004	+·0002	+ 0·4	− 0·3	+·0003
50	45·0	91·3		51·3		+·0003	+·0001	+ 0·2	− 0·3	+·0002
56	44·7	90·9		52·1		+·0002	+·0001	0·0	− 0·2	+·0001
04 02	44·5	90·0	63·7	57·6	63·5	+·0001	+·0005	− 0·1	+ 0·7	+·0004
08	44·3	89·3		58·0		·0000	+·0006	− 0·2	+ 1·0	+·0004
14	44·5	88·7		58·1		−·0001	+·0006	0·0	+ 1·2	+·0004
20	44·5	88·0		58·9		−·0002	+·0007	+ 0·1	+ 1·5	+·0004
26	44·0	86·9		59·9		−·0004	+·0008	+ 0·3	+ 2·0	+·0004
32	43·7	85·2		61·9		−·0007	+·0010	− 0·5	+ 2·8	+·0004
38	43·3	83·9		63·3		−·0009	+·0012	− 0·7	+ 3·5	+·0005
44	43·1	83·1		64·3		−·0010	+·0013	− 0·8	+ 3·8	+·0005
50	43·1	82·8		64·3		−·0010	+·0013	− 0·8	+ 3·8	+·0005
56	43·1	82·9		64·1		−·0010	+·0013	− 0·8	+ 3·8	+·0005
05 02	43·0	82·2	64·3	64·6	64·3	−·0011	+·0013	− 0·8	+ 4·0	+·0004
08	42·4	82·0		64·8		−·0011	+·0013	− 1·2	+ 4·0	+·0004
14	42·3	81·6		64·8		−·0011	+·0013	− 1·3	+ 4·0	+·0004
20	42·5	81·3		64·8		−·0012	+·0013	− 1·1	+ 4·1	+·0004
26	42·4	81·1		64·7		−·0012	+·0013	− 1·2	+ 4·1	+·0004
32	42·2	81·0		64·6		−·0012	+·0013	− 1·4	+ 4·1	+·0004
38	42·2	81·0		64·2		−·0012	+·0013	− 1·4	+ 4·1	+·0004
44	42·6	81·0		63·8		−·0012	+·0013	− 1·1	+ 4·1	+·0004
50	42·1	81·7		63·5		−·0010	+·0012	− 1·5	+ 3·6	+·0004
56	42·0	81·1		63·6		−·0011	+·0012	− 1·6	+ 3·8	+·0004
06 02	42·0	80·9	64·6	63·7	64·6	−·0012	+·0013	− 1·6	+ 4·1	+·0004
08	42·0	80·9		63·3		−·0012	+·0012	− 1·6	+ 4·0	+·0003
14	42·1	80·7		62·8		−·0012	+·0012	− 1.6	+ 4.0	+·0003
20	42·8	80·5		61·6		−·0012	+·0010	− 1·1	+ 3·6	+·0002
26	42·8	80·1		62·2		−·0013	+·0011	− 1·1	+ 4·0	+·0002
32	42·4	80·2		62·4		−·0012	+·0012	− 1·4	+ 4·0	+·0003
38	42·1	80·2		62·4		−·0012	+·0012	− 1·7	+ 4·0	+·0003
44	42·0	80·2		62·5		−·0012	+·0012	− 1·7	+ 4·0	+·0003
50	41·7	80·7		62·2		−·0012	+·0012	− 2·0	+ 4·0	+·0003
56	41·6	81·0		61·5		−·0011	+·0011	− 2·1	+ 3·6	+·0003
07 02	41·8	81·0	64·6	62·4	64·7	−·0011	+·0012	− 2·0	+ 3·8	+·0004
08	41·9	81·0		62·1		−·0011	+·0012	− 1·9	+ 3·8	+·0004
14	42·0	80·9		62·7		−·0011	+·0012	− 1·8	+ 3·8	+·0004
20	41·3	81·1		62·3		−·0010	+·0012	− 2·3	+ 3·6	+·0004
26	41·8	81·1		59·3		−·0010	+·0009	− 2·0	+ 3·1	+·0002
32	42·0	80·1		59·9		−·0012	+·0009	− 1·9	+ 3·5	+·0002
38	42·0	79·5		60·8		−·0013	+·0010	− 1·9	+ 3·8	+·0002
44	42·0	79·2		63·5		−·0014	+·0013	− 1·9	+ 4·4	+·0003
50	41·9	79·1		61·2		−·0014	+·0011	− 2·0	+ 4·1	+·0002
56	42·1	79·1		61·2		−·0014	+·0011	− 1·8	+ 4·1	+·0002
08 02	42·0	78·7	64·6	61·7	64·7	−·0015	+·0011	− 1·9	+ 4·3	+·0002
08	42·0	78·2		62·1		−·0016	+·0012	− 1·9	+ 4·6	+·0002
14	42·0	78·0		61·6		−·0016	+·0011	− 1·9	+ 4·4	+·0001
20	42·1	77·9		62·0		−·0016	+·0012	− 1·8	+ 4·6	+·0002
26	41·9	79·0		61·4		−·0014	+·0011	− 2·0	+ 4·1	+·0002
32	42·0	79·5		61·4		−·0013	+·0011	− 1·9	+ 4·0	+·0002

1842.
Cape of Good Hope.

May 6.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 2m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta \psi$	$\Delta \theta$	$\frac{\Delta \phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. ○	Sc. Div.	Therm. ○	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
6 08 38	41·8	79·1		61·5		−·0014	+·0011	− 2·0	+ 4·1	+·0002
44	41·4	79·1		61·5		−·0014	+·0011	− 2·3	+ 4·1	+·0002
50	41·4	80·1		61·5		−·0012	+·0011	− 2·3	+ 3·8	+·0003
56	41·1	80·9		60·4		−·0011	+·0010	− 2·6	+ 3·5	+·0003
09 02	41·2	81·0	64·5	60·4	64·6	−·0011	+·0010	− 2·5	+ 3·5	+·0003
08	41·2	81·0		58·5		−·0011	+·0008	− 2·5	+ 3·1	+·0001
14	41·5	80·6		58·3		−·0012	+·0008	− 2·3	+ 3·3	+·0001
20	41·9	81·1		55·7		−·0011	+·0008	− 2·0	+ 2·6	−·0001
26	42·5	81·2		55·6		−·0011	+·0005	− 1·6	+ 2·6	−·0001
32	42·7	81·0		55·5		−·0011	+·0005	− 1·5	+ 2·6	−·0001
38	42·9	80·4		56·2		−·0012	+·0006	− 1·4	+ 3·0	·0000
44	42·7	80·2		56·5		−·0013	+·0006	− 1·5	+ 3·1	−·0001
50	42·5	80·0		57·2		−·0013	+·0007	− 1·7	+ 3·3	·0000
56	42·0	80·0		57·8		−·0013	+·0008	− 2·1	+ 3·5	+·0001
10 02	41·5	80·0	64·5	58·2	64·6	−·0013	+·0008	− 2·5	+ 3·5	+·0001
08	41·2	80·4		57·7		−·0012	+·0008	− 2·7	+ 3·3	+·0001
14	41·3	80·9		55·9		−·0012	+·0006	− 2·6	+ 3·0	·0000
20	41·7	82·2		54·7		−·0010	+·0005	− 2·3	+ 2·5	·0000
26	42·0	81·8		54·3		−·0010	+·0004	− 2·1	+ 2·3	−·0001
32	42·1	81·8		54·3		−·0011	+·0004	− 2·1	+ 2·5	−·0001
38	42·1	82·2		53·4		−·0010	+·0004	− 2·1	+ 2·3	−·0001
44	42·5	82·5		53·0		−·0010	+·0003	− 1·8	+ 2·1	−·0002
50	42·4	82·1		53·2		−·0010	+·0003	− 1·9	+ 2·1	−·0002
56	42·5	82·3		52·8		−·0010	+·0003	− 1 8	+ 2·1	−·0002
11 02	42·6	82·6	64·3	52·2	64·7	−·0010	+·0002	− 1·7	+ 2·0	−·0002
08	42·8	83·2		51·6		−·0009	+·0002	− 1·6	+ 1·8	−·0002
14	43·0	83·3		50·8		−·0009	+·0001	− 1·4	+ 1·7	−·0003
20	43·1	83·3		50·8		−·0009	+·0001	− 1·4	+ 1·7	−·0003
26	43·5	83·8		50·2		−·0008	·0000	− 1·1	+ 1·3	−·0003
32	43·9	84·2		50·2		−·0007	·0000	− 0·8	+ 1·2	−·0002
38	43·8	83·9		50·2		−·0008	·0000	− 0·9	+ 1·3	−·0003
44	43·6	83·8		50·5		−·0008	+·0001	− 1·1	+ 1·5	−·0002
50	43·3	84·0		50·5		−·0008	+·0001	− 1·3	+ 1·5	−·0002
56	43·3	84·2		50·5		−·0008	+·0001	− 1·3	+ 1·5	−·0002
12 02	43·3	84·6	64·1	50·8	64·7	−·0007	+·0001	− 1·3	+ 1·3	−·0002
08	43·3	85·0		50·0		−·0006	·0000	− 1·3	+ 1·0	−·0002
14	43·3	85·6		49·8		−·0005	·0000	− 1·3	+ 0·8	−·0002
20	43·3	86·0		49·2		−·0005	−·0001	− 1·4	+ 0·7	−·0002
26	43·7	86·3		48·4		−·0004	−·0002	− 1·1	+ 0·3	−·0003
32	43·9	86·3		48·3		−·0004	−·0002	− 0·9	+ 0·3	−·0003
38	43·9	86·1		48·7		−·0005	−·0001	− 0·9	+ 0·7	−·0002
44	43·8	86·3		49·1		−·0004	−·0001	− 1·0	+ 0·5	−·0002
50	43·9	86·4		49·1		−·0004	−·0001	− 1·0	+ 0·5	−·0002
56	43·9	86·7		48·8		−·0004	−·0001	− 1·0	+ 0·5	−·0002
13 02	43·9	86·8	64·1	48·8	64·6	−·0003	−·0001	− 1·0	+ 0·3	−·0002

1842.
St. Helena.
May 6.

ST. HELENA, 1842. MAY 6.

MEAN MONTHLY READINGS OF THE MAGNETOMETERS.

Mean Göttingen Time.	Declination.	H. F. at 67°·3.	V. F. at 66°·9.	Mean Göttingen Time.	Declination.	H. F. at 67°·3.	V. F. at 66°·9.
Hours.	Sc. Div.	Sc. Div.	Sc. Div.	Hours.	Sc. Div.	Sc. Div.	Sc. Div.
00	18·6	67·3	6·4	12	18·9	58·3	6·1
01	18·6	67·3	—	14	18·9	58·4	5·9
02	18·1	65·9	6·7	15	19·1	58·5	—
03	18·3	64·3	—	16	19·1	59·0	5·7
04	18·5	62·3	7·1	18	19·7	59·4	5·6
05	18·1	60·9	—	19	20·3	59·6	—
06	17·7	60·0	6·8	20	21·1	60·3	5·8
08	18·1	58·7	6·7	21	19·6	61·7	—
10	18·5	58·2	6·5	22	18·0	63·8	6·0
11	18·7	58·2	—	23	17·6	66·1	—

Coefficients (A), Approximate Absolute Values (B).

(A)
- Declin. $a = 0'{\cdot}711$
- H. F. $k = {\cdot}00019$, $q = {\cdot}00028$
- V. F. $k = {\cdot}0006$, $q = {\cdot}00002$

(B) Approx.
- $\psi = 23°\,10'$
- X = 5·57
- Y = 2·20
- $\theta = -\,21°\,31'$
- $\phi = 6{\cdot}00$

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 2m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm.	Sc. Div.	Therm.	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
6 06 02	16·0	50·5	72·7	10·7	71·5	−·0003	+·0024	− 1·2	+ 3·2	+·0001
08	15·1	50·3		10·7		−·0003	+·0024	− 1·8	+ 3·2	+·0001
14	15·3	50·0		10·7		−·0004	+·0024	− 1·7	+ 3·3	·0000
20	16·0	50·0		10·8		−·0004	+·0025	− 1·3	+ 3·4	·0000
26	16·0	50·0		10·8		−·0004	+·0025	− 1·3	+ 3·4	·0000
32	15·9	49·9		10·8		−·0004	+·0025	− 1·3	+ 3·4	·0000
38	15·9	49·7		10·8		−·0004	+·0025	− 1·3	+ 3·4	·0000
44	15·9	49·1		10·8		−·0006	+·0025	− 1·3	+ 3·5	−·0002
50	15·7	49·7		10·8		−·0004	+·0025	− 1·5	+ 3·4	·0000
56	15·8	49·7		10·8		−·0004	+·0025	− 1·5	+ 3·4	·0000
07 02	15·9	49·7	72·4	10·8	71·5	−·0004	+·0025	− 1·4	+ 3·4	·0000
08	15·9	49·3		10·8		−·0005	+·0025	− 1·4	+ 3·5	−·0001
14	15·9	49·2		10·8		−·0005	+·0025	− 1·4	+ 3·5	−·0001
20	15·9	49·7		10·8		−·0004	+·0025	− 1·5	+ 3·4	·0000
26	16·0	49·2		10·8		−·0005	+·0025	− 1·4	+ 3·5	−·0001
32	16·4	49·3		10·8		−·0005	+·0025	− 1·1	+ 3·5	−·0001
38	16·7	47·8		10·8		−·0008	+·0025	− 0·9	+ 3·9	−·0004
44	16·7	47·4		10·8		−·0008	+·0025	− 0·9	+ 3·9	−·0004
50	16·7	47·3		10·8		−·0009	+·0025	− 1·0	+ 4·0	−·0004
56	16·8	47·1		10·8		−·0009	+·0025	− 0·9	+ 4·0	−·0004
08 02	16·9	46·7	72·0	10·8	71·5	−·0007	+·0025	− 0·8	+ 3·8	−·0003
08	17·0	—		—		—	—	− 0·8	—	—
14	17·0	45·4		11·3		−·0012	+·0028	− 0·8	+ 4·7	−·0007
20	17·1	45·1		11·4		−·0013	+·0029	− 0·8	+ 4·9	−·0007
26	17·2	45·0		11·5		−·0013	+·0029	− 0·7	+ 4·9	−·0007
32	17·2	46·0		11·5		−·0012	+·0030	− 0·7	+ 4·9	−·0006
38	17·6	46·3		11·5		−·0011	+·0030	− 0·4	+ 4·8	−·0006
44	17·4	46·3		11·5		−·0011	+·0030	− 0·6	+ 4·8	−·0006
50	17·2	46·6		11·8		−·0011	+·0032	− 0·8	+ 4·9	−·0005
56	17·1	47·0		12·0		−·0010	+·0033	− 0·8	+ 4·9	−·0004
09 02	17·1	47·2	71·5	12·0	71·3	−·0010	+·0033	− 0·8	+ 4·9	−·0004
08	17·2	47·2		12·0		−·0010	+·0033	− 0·8	+ 4·9	−·0004
14	17·4	47·0		12·1		−·0010	+·0034	− 0·6	+ 5·2	−·0004
20	17·6	47·1		12·0		−·0010	+·0033	− 0·6	+ 4·9	−·0004
26	17·7	—		—		—	—	− 0·5	—	—
32	18·0	47·3		12·0		−·0010	+·0034	− 0·3	+ 5·2	−·0004
38	18·0	46·8		12·0		−·0011	+·0034	− 0·3	+ 5·3	−·0005
44	18·0	46·8		11·6		−·0011	+·0031	− 0·3	+ 4·9	−·0005
50	18·1	46·3		11·6		−·0012	+·0031	− 0·3	+ 4·9	−·0066
56	18·1	46·1		11·6		−·0013	+·0031	− 0·3	+ 5·2	−·0007

1842. St. Helena.

May 6.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 2m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours. $\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
6 10 02	18·0	46·1	71·0	11·6	71·0	−·0013	+·0031	− 0·4	+ 5·2	−·0007
08	18·0	46·1	—	11·6	—	−·0013	+·0031	− 0·4	+ 5·2	−·0007
14	17·9	46·9	—	11·6	—	−·0011	+·0031	− 0·4	+ 4·9	−·0005
32	18·1	47·9	—	(a)11·6	—	−·0010	+·0032	− 0·4	+ 4·9	−·0004
11 02	18·3	48·9	70·9	(a)11·6	70·6	−·0008	+·0032	− 0·3	+ 4·7	−·0003
32	18·9	50·9	—	(a)11·6	—	−·0005	+·0033	+ 0·1	+ 4·5	·0000
12 02	19·0	50·9	70·4	(a)11·6	70·1	−·0006	+·0034	+ 0·1	+ 4·7	−·0001
32	19·0	51·9	—	(a)11·6	—	−·0004	+·0034	+ 0·1	+ 4·5	+·0001
13 02	19·0	—	70·2	(a)10·2	69·8	—	—	+ 0·1	—	—
32	18·8	53·0	—	(a)10·2	—	−·0003	+·0026	− 0·1	+ 3·4	+·0001
14 02	19·0	54·1	70·0	(a)10·2	69·5	−·0001	+·0026	+ 0·1	+ 3·2	+·0003
32	19·1	54·5	—	(a)10·6	—	·0000	+·0029	+ 0·1	+ 3·4	+·0004
15 02	19·5	55·5	70·0	(a)10·6	69·3	+·0002	+·0029	+ 0·3	+ 3·2	+·0006
32	19·9	55·0	—	(a)10·3	—	·0000	+·0028	+ 0·6	+ 3·3	+·0004
16 02	20·0	56·0	70·0	(a)10·3	69·1	+·0002	+·0028	+ 0·6	+ 3·1	+·0006

1842. Van Diemen Island.

May 7.

VAN DIEMEN ISLAND, 1842. MAY 7 and 16.

MEAN MONTHLY READINGS OF THE MAGNETOMETERS.

Mean Göttingen Time.	Declination.	H. F. at 54°·6.	V. F. at 53°·5.	Mean Göttingen Time.	Declination.	H. F. at 54°·6.	V. F. at 53°·5.
Hours.	Sc. Div.	Sc. Div.	Sc. Div.	Hours.	Sc. Div.	Sc. Div.	Sc. Div.
00	69·5	69·1	46·4	12	69·7	67·5	38·6
01	69·2	67·8	47·2	13	69·5	66·7	42·4
02	68·8	68·4	46·0	14	70·3	65·4	45·8
03	69·5	68·5	41·7	15	71·7	63·8	48·0
04	70·4	68·2	46·5	16	74·4	65·3	52·9
05	70·9	68·9	44·1	17	75·1	66·6	54·0
06	71·7	68·6	42·2	18	75·0	68·5	53·3
07	71·9	68·0	39·6	19	73·9	69·9	50·5
08	71·4	69·1	38·5	20	72·8	71·0	51·4
09	71·2	70·1	38·1	21	72·7	70·4	47·1
10	70·9	70·3	37·5	22	71·8	70·4	46·5
11	70·0	69·7	37·8	23	69·7	69·6	45·9

Coefficients (A), Approximate Absolute Values (B.)

(A) Declin. $a = 0'·71$

H. F. $k = ·000120$, $q = ·000234$

V. F. $k = ·00036$, $q = ·00021$

(B) Approx. $\psi = -9° 55'$, $X = 4·51$, $Y = 12·86$, $\theta = -70° 37'$, $\phi = 13·62$

OBSERVATIONS OF THE MAGNETOMETERS.

The H. F. was observed 2m. 30s. before, and the V. F. 2m. 30s. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours. $\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
7 00 00	61·5	75·2	54·2	23·3	52·5	+·0006	−·0010	− 5·7	− 1·7	−·0008
10	58·6	—		—		—	—	− 7·7	—	—
15	56·0	59·3		35·1		−·0012	−·0006	− 9·5	+ 0·7	−·0007
20	54·9	—		—		—	—	−10·3	—	—
25	57·5	63·8		41·1		−·0006	−·0003	− 8·4	+ 0·3	−·0003
30	61·2	—		—		—	—	− 5·8	—	—
35	63·2	65·9		43·0		−·0003	−·0003	− 4·4	0·0	−·0003
40	64·4	—		—		—	—	− 3·4	—	—
45	65·8	66·7		43·8		−·0002	−·0002	− 2·5	0·0	−·0002
50	66·8	—		—		—	—	− 1·7	—	—
55	66·8	64·2		44·0		−·0005	−·0002	− 1·7	+ 0·3	−·0002
01 00	66·0	61·6	54·5	44·0	53·3	−·0008	−·0002	− 2·2	+ 0·7	−·0003
05	65·8	—		—		—	—	− 2·4	—	—

(a) Observed 4m before the times specified.

1842.
Van Diemen Island.

May 7 and 16.

OBSERVATIONS OF THE MAGNETOMETERS.

The H. F. was observed 2m. 30s. before, and the V. F. 2m. 30s. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
						$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta \psi$	$\Delta \theta$	$\frac{\Delta \phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
7 01 10	65·4	62·0		44·9		−·0007	−·0001	− 2·6	+ 0·7	−·0002
15	65·8	—		—		—	—	− 2·3	—	—
02 00	63·6	59·7	54·8	38·2	54·0	−·0010	−·0002	− 3·7	+ 0·9	−·0003
16 00 00	67·5	46·3	54·0	75·4	52·0	−·0029	+·0007	− 1·4	+ 3·9	+·0003
05	61·6	31·6		70·5		−·0046	+·0006	− 5·6	+ 5·6	·0000
10	60·0	—		—		—	—	− 6·7	—	—
15	60·4	44·1		72·4		−·0031	+·0007	− 6·4	+ 4·1	+·0003
20	58·2	—		—		—	—	− 7·9	—	—
25	56·9	39·2		73·4		−·0037	+·0008	− 8·9	+ 4·7	+·0003
30	55·1	—		—		—	—	−10·0	—	—
35	53·6	33·6		73·8		−·0043	+·0008	−11·2	+ 5·5	+·0002
40	51·5	—		—		—	—	−12·7	—	—
45	49·7	29·1		75·7		−·0048	+·0010	−13·9	+ 6·3	+·0004
50	47·4	—		—		—	—	−15·5	—	—
55	48·8	39·3		69·7		−·0036	+·0008	−14·5	+ 4·7	+-0003
01 00	50·0	31·6	54·0	69·7	53·5	−·0045	+·0008	−13·6	+ 5·7	+·0002
05	49·6	31·6		73·0		−·0045	+·0010	−13·9	+ 5·9	+·0004
10	48·8	—		—		—	—	−14·4	—	—
15	47·9	29·2		75·2		−·0048	+·0011	−15·0	+ 6·4	+·0004
20	49·2	—		—		—	—	−14·1	—	—
25	51·1	33·8		75·9		−·0043	+·0012	−12·7	+ 5·9	+·0006
30	52·8	—		—		—	—	−11·5	—	—
35	52·4	35·4		71·1		−·0041	+·0011	−11·8	+ 5·6	+·0005
40	52·5	—		—		—	—	−11·7	—	—
45	52·1	—		—		—	—	−12·0	—	—
55	58·3	36·9		66·3		−·0040	+·0013	− 7·9	+ 5·7	+·0007
02 00	56·0	44·7	54·0	65·5	55·0	−·0030	+·0006	− 9·1	+ 4·3	+·0006
03 00	60·1	39·2	53·8	66·3	55·3	−·0037	+ 0013	− 6·7	+ 5·4	+·0008
05	62·4	39·2		68·4		−·0037	+·0013	− 5·1	+ 5·4	+·0008
10	62·7	—		—		—	—	− 5·0	—	—
15	63·8	37·0		69·0		−·0040	+·0013	− 4·2	+ 5·7	+·0007
20	65·5	—		—		—	—	− 3·0	—	—
25	66·6	38·7		69·6		−·0038	+·0013	− 2·3	+ 5·5	+·0007
30	67·0	—		—		—	—	− 2·1	—	—
35	67·1	41·2		66·3		−·0035	+·0012	− 2·0	+ 5·1	+·0007
40	67·3	—		—		—	—	− 2·0	—	—
45	66·4	44·3		62·8		−·0031	+·0011	− 2·7	+ 4·5	+·0006
50	67·0	—		—		—	—	− 2·3	—	—
04 00	64·7	50·2	53·5	56·5	55·5	−·0024	+·0008	− 4·1	+ 3·5	+·0005
05	63·7	50·2		48·2		−·0024	+·0005	− 4·8	+ 3·1	+·0002
10	61·0	—		—		—	—	− 6·8	—	—
15	62·5	52·6		44·5		−·0022	+·0004	− 5·7	+ 2·8	+·0001
20	65·5	—		—		—	—	− 3·7	—	—
25	62·6	54·5		34·8		−·0020	·0000	− 5·7	+ 2·2	−·0002
30	58·9	—		—		—	—	− 8·3	—	—
35	60·3	56·6		33·1		−·0017	·0000	− 7·4	+ 1·8	−·0002
40	61·7	—		—		—	—	− 6·4	—	—
45	64·7	57·9		33·9		−·0016	·0000	− 4·4	+ 1·7	−·0002
50	62·6	—		—		—	—	− 5·8	—	—
05 00	64·1	60·7	53·3	33·2	55·4	−·0013	·0000	− 4·9	+ 1·4	−·0001
10	65·5	—		—		—	—	− 4·0	—	—
15	64·2	54·6		38·3		−·0020	+·0002	− 4·9	+ 2·4	·0000
20	63·8	—		—		—	—	− 5·3	—	—
25	64·4	56·8		40·8		−·0018	+·0003	− 4·9	+ 2·3	+·0001
30	65·8	—		—		—	—	− 4·0	—	—
35	66·9	58·0		42·3		−·0016	+·0004	− 3·2	+ 2·2	+·0002
40	67·6	—		—		—	—	− 2·7	—	—
45	67·7	57·8		44·4		−·0017	+.0004	− 2·7	+ 2·3	+·0002
50	67·9	—		—		—	—	− 2·6	—	—
06 00	69·3	57·2	53·0	45·8	55·2	−·0018	+·0005	− 1 7	+ 2·5	+·0002

1842.
St. Helena.

May 16.

For Mean Monthly Readings *see* page 59.

ST. HELENA, 1842. MAY 16.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 2m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
16 01 02	19·9	—	67·0	—	66·6	—	—	+ 0·9	—	—
08	19·1	53·8		5·4		−·0026	−·0007	+ 0·4	+ 2·1	−·0024
14	19·2	53·5		5·4		−·0026	−·0007	+ 0·5	+ 2·1	−·0024
20	18·9	52·6		5·4		−·0027	−·0007	+ 0·4	+ 2·4	−·0024
26	18·4	51·9		5·5		−·0028	−·0007	0·0	+ 2·5	−·0025
32	18·6	51·6		5·7		−·0028	−·0006	+ 0·2	+ 2·6	−·0025
38	18·4	51·4		5·7		−·0028	−·0006	+ 0·1	+ 2·6	−·0025
44	18·2	51·2		5·7		−·0028	−·0006	0·0	+ 2·6	−·0025
50	18·2	50·5		5·7		−·0029	−·0006	0·0	+ 2·7	−·0026
56	17·9	50·0		5·7		−·0029	−·0006	− 0·1	+ 2·7	−·0026
02 02	17·6	49·4	67·8	5·9	67·1	−·0030	−·0005	− 0·4	+ 2·8	−·0027
08	17·4	48·7		6·0		−·0031	−·0004	− 0·5	+ 3·2	−·0027
14	17·4	48·2		6·1		−·0032	−·0004	− 0·5	+ 3·3	−·0028
20	17·5	48·1		6·1		−·0031	−·0004	− 0·5	+ 3·2	−·0027
26	17·7	47·6		6·1		−·0032	−·0004	− 0·4	+ 3·3	−·0028
32	17·7	47·2		5·9		−·0032	−·0005	− 0·4	+ 3·2	−·0028
38	17·8	47·0		5·9		−·0032	−·0005	− 0·3	+ 3·2	−·0028
44	17·8	47·0		6·4		−·0032	−·0002	− 0·3	+ 3·5	−·0028
50	18·0	46·9		6·2		−·0032	−·0004	− 0·2	+ 3·3	−·0028
56	18·1	46·1		6·1		−·0033	−·0005	− 0·1	+ 3·3	−·0029
03 02	18·0	45·8	68·0	6·2	67·4	−·0033	−·0004	− 0·2	+ 3·4	−·0029
08	18·1	45·4		6·2		−·0034	−·0004	− 0·1	+ 3·5	−·0030
14	18·5	45·2		6·0		−·0034	−·0005	+ 0·1	+ 3·4	−·0030
20	18·4	45·0		6·0		−·0034	−·0006	0·0	+ 3·3	−·0030
26	18·8	45·0		6·0		−·0034	−·0006	+ 0·3	+ 3·3	−·0030
32	18·9	45·0		6·0		−·0034	−·0006	+ 0·4	+ 3·3	−·0030
38	18·9	45·0		6·2		−·0034	−·0005	+ 0·4	+ 3·4	−·0030
44	19·0	44·9		6·2		−·0034	−·0005	+ 0·4	+ 3·4	−·0030
50	19·0	44·7		5·8		−·0034	−·0008	+ 0·4	+ 3·1	−·0030
56	18·9	44·4		5·7		−·0035	−·0008	+ 0·3	+ 3·2	−·0031
04 02	18·9	44·2	67·1	5·7	67·6	−·0035	−·0008	+ 0·3	− 3·2	−·0031
08	19·0	44·1		5·9		−·0035	−·0007	+ 0·4	+ 3·3	−·0031
14	19·0	43·9		5·9		−·0034	−·0007	+ 0·4	+ 3·2	−·0030
20	19·0	43·9		5·9		−·0034	−·0007	+ 0·4	+ 3·2	−·0030
26	18·9	43·4		6·1		−·0034	−·0006	+ 0·4	+ 3·3	−·0030
32	18·6	43·3		6·1		−·0034	−·0005	+ 0·2	+ 3·4	−·0030
38	18·5	43·3		6·1		−·0034	−·0005	+ 0·1	+ 3·4	−·0030
44	18·1	43·6		6·3		−·0033	−·0004	+ 0·1	+ 3·4	−·0029
50	17·9	44·8		6·3		−·0030	−·0004	− 0·2	+ 3·1	−·0026
56	18·0	45·9		6·6		−·0027	−·0002	− 0·1	+ 2·8	−·0024
05 02	18·0	46·0	68·0	6·3	67·6	−·0026	−·0004	− 0·1	+ 2·6	−·0023
08	18·0	46·0		6·7		−·0026	−·0002	− 0·1	+ 2·8	−·0023
14	17·8	46·0		6·7		−·0026	−·0002	− 0·1	+ 2·8	−·0023
20	17·2	46·0		6·7		−·0026	−·0001	− 0·6	+ 2·8	−·0023
26	17·1	46·5		6·7		−·0025	−·0001	− 0·6	+ 2·8	−·0022
32	17·2	47·0		6·7		−·0024	−·0001	− 0·5	+ 2·7	−·0021
38	17·8	47·0		6·7		−·0024	−·0001	− 0·1	+ 2·7	−·0021
44	17·9	47·2		6·7		−·0023	−·0001	+ 0·1	+ 2·6	−·0020
50	17·9	47·9		6·9		−·0022	+·0001	+ 0·1	+ 2·7	−·0019
56	17·9	48·0		6·9		−·0021	+·0001	+ 0·1	+ 2·6	−·0018
06 02	17·9	48·5	67·9	6·9	67·5	−·0020	+·0001	+ 0·1	+ 2·5	−·0017
08	17·9	48·9		6·9		−·0019	+·0001	+ 0·1	+ 2·4	−·0016
14	17·9	48·9		6·9		−·0019	+·0001	+ 0·1	+ 2·4	−·0016
20	17·9	48·9		6·9		−·0019	+·0001	+ 0·1	+ 2·4	−·0016
26	17·5	48·8		6·6		−·0019	−·0001	− 0·2	+ 2·1	−·0017
32	17·5	48·8		6·5		−·0019	−·0002	− 0·2	+ 2·0	−·0017
38	17·1	49·0		6·7		−·0019	−·0001	− 0·5	+ 2·1	−·0017
44	17·1	49·0		6·9		−·0019	+·0001	− 0·5	+ 2·4	−·0016
50	17·1	49·0		6·9		−·0019	+·0001	− 0·6	+ 2·4	−·0016
56	17·1	49·0		6·9		−·0019	+·0001	− 0·6	+ 2·4	−·0016

CAPE OF GOOD HOPE, 1842. MAY 16—17.

1842.
Cape of Good Hope.

May 16.

For Mean Monthly Readings, *see* page 55.

OBSERVATIONS OF THE MAGNETOMETERS.

The H. F. was observed 2m. after, and the V. F. 2m. before the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
						$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
16 03 02	44·0	74·0	62·7	68·2	62·9	−·0030	+·0020	− 0·9	+ 8·2	+·0002
08	43·9	74·5		68·1		−·0030	+·0018	− 0·9	+ 7·9	+·0001
14	43·5	75·2		68·2		−·0028	+·0018	− 1·2	+ 7·6	+·0002
20	43·2	75·7		67·9		−·0027	+·0018	− 1·4	+ 7·4	+·0002
26	43·0	76·5		67·6		− 0026	+·0017	− 1·5	+ 7·1	+·0002
32	43·0	77·1		66·6		−·0025	+·0016	− 1·4	+ 6·8	+·0001
38	42·6	78·1		64·9		−·0023	+·0014	− 1·7	+ 6·1	+·0001
44	42·5	78·7		63·3		−·0022	+·0012	− 1·7	+ 5·6	·0000
50	42·1	79·0		63·0		−·0021	+·0012	− 2·0	+ 5·4	·0000
56	41·9	79·3		62·9		−·0021	+·0011	− 2·1	+ 5·3	·0000
04 02	41·5	79·0	62·8	62·6	63·2	−·0022	+·0011	− 2·3	+ 5·4	−·0001
08	41·5	78·6		61·6		−·0022	+·0010	− 2·3	+ 5·3	−·0001
14	41·5	77·9		61·6		−·0023	+·0010	− 2·3	+ 5·4	−·0002
20	41·7	77·0		61·6		−·0025	+·0010	− 2·0	+ 5·8	−·0003
26	42·0	75·7		61·8		−·0027	+·0010	− 1·8	+ 6·1	−·0003
32	42·0	74·5		62·5		−·0029	+·0010	− 1·7	+ 6·4	−·0004
38	42·1	73·9		62·1		−·0029	+·0010	− 1·6	+ 6·4	−·0004
44	42·4	74·0		62·6		−·0029	+·0010	− 1·4	+ 6·4	−·0004
50	42·0	74·4		62·3		−·0028	+·0010	− 1·6	+ 6·3	−·0004
56	42·5	75·1		62·0		−·0027	+·0010	− 1·2	+ 6·1	−·0003
05 02	43·4	74·5	63·2	58·5	63·5	−·0028	+·0006	− 1·2	+ 5·6	−·0006
08	43·9	73·9		58·3		−·0029	+·0006	− 0·1	+ 5·8	−·0007
14	43·8	73·5		59·3		−·0029	+·0007	− 0·2	+ 5·9	−·0006
20	43·0	74·5		59·6		−·0028	+·0007	− 0·8	+ 5·8	−·0006
26	42·9	75·1		58·4		−·0027	+·0006	− 0·8	+ 5·4	−·0006
32	42·9	76·1		57·1		−·0025	+·0005	− 0·9	+ 4·9	−·0006
38	43·0	76·5		56·6		−·0024	+·0004	− 0·8	+ 4·6	−·0006
44	42·8	76·7		56·6		−·0024	+·0004	− 1·0	+ 4·6	−·0006
50	42·9	77·1		56·7		−·0023	+·0005	− 0·9	+ 4·6	−·0005
56	42·9	77·6		56·7		−·0022	+·0005	− 0·9	+ 4·4	−·0005
06 02	42·9	78·0	63·4	55·2	64·0	−·0020	+·0003	− 0·9	+ 3·8	−·0005
08	42·8	78·2		54·5		−·0020	+·0002	− 1·0	+ 3·6	−·0006
14	42·8	78·7		54·5		−·0019	+·0002	− 1·1	+ 3·5	−·0005
20	42·8	78·5		53·7		−·0019	+·0001	− 1·1	+ 3·3	−·0006
26	42·9	78·3		54·2		−·0019	+·0002	− 1·0	+ 3·5	−·0005
32	42·9	78·2		54·6		−·0019	+·0003	− 1·1	+ 3·6	−·0005
38	42·3	78·6		54·6		−·0019	+·0003	− 1·5	+ 3·6	−·0005
44	42·2	78·9		54·1		−·0018	+·0002	− 1·6	+ 3·3	−·0005
50	42·1	79·0		54·6		−·0018	+·0003	− 1·7	+ 3·5	−·0004
56	41·9	79·2		54·9		−·0017	+·0003	− 1·9	+ 3·3	−·0004
07 02	41·9	79·6	63·5	54·1	63·7	−·0016	+·0002	− 1·9	+ 3·0	−·0004
08	41·9	79·5		53·3		−·0017	+·0001	− 1·9	+ 3.0	−·0005
14	41·8	78·5		53·3		−·0018	+·0001	− 2·0	+ 3·1	−·0006
20	41·9	79·6		53·3		−·0016	+·0001	− 1·9	+ 2·8	−·0005
26	42·0	79·3		53·2		−·0017	+·0001	− 1·8	+ 3·0	−·0005
32	42·1	79·1		53·5		−·0017	+·0002	− 1·8	+ 3·1	−·0005
38	42·1	78·9		53·8		−·0017	+·0002	− 1·8	+ 3·1	−·0005
44	42·1	78·9		53·8		−·0017	+·0002	− 1·8	+ 3·1	−·0005
50	42·2	78·9		54·0		−·0017	+·0002	− 1·7	+ 3·1	−·0005
56	42·2	78·8		54·3		−·0017	+·0003	− 1·7	+ 3·3	−·0004
08 02	42·2	79·1	63·6	54·0	63·8	−·0017	+·0002	− 1·7	+ 3·1	−·0005
08	42·0	79·2		53·6		−·0017	+·0002	− 1·9	+ 3·1	−·0005
14	42·0	79·5		52·9		−·0016	+·0001	− 1·9	+ 2·8	−·0005
20	42·0	80·0		52·7		−·0015	+·0001	− 1·9	+ 2·6	−·0005
26	42·1	80·2		52·7		−·0015	+·0001	− 1·8	+ 2·6	−·0005
32	42·0	80·4		52·7		−·0015	+·0001	− 1·9	+ 2·6	−·0005
38	42·0	80·7		52·4		−·0014	+·0001	− 1·9	+ 2·5	−·0004
44	42·0	81·0		52·4		−·0014	+·0001	− 1·9	+ 2·5	−·0004
50	42·0	81·2		52·2		−·0013	+·0001	− 1·9	+ 2·3	−·0004
56	41·9	81·3		52·7		−·0013	+·0001	− 2·0	+ 2·3	−·0004
09 02	41·6	81·0	63·5	53·1	63·8	−·0014	+·0002	− 2·2	+ 2·6	−·0004
08	41·3	80·3		53·1		−·0015	+·0002	− 2·4	+ 2·8	−·0004

1842.
Cape of Good Hope.

May 16—17.

OBSERVATIONS OF THE MAGNETOMETERS. The H. F. was observed 2m. after, and the V. F. 2m. before the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta \psi$	$\Delta \theta$	$\frac{\Delta \phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
16 09 14	41·6	79·8		53·3		−·0016	+·0002	− 2·3	+ 3·0	−·0004
20	41·7	79·4		53·3		−·0016	+·0002	− 2·2	+ 3·0	−·0004
26	41·7	79·6		53·6		−·0016	+·0002	− 2·2	+ 3·0	−·0004
32	41·8	80·1		53·8		−·0015	+·0003	− 2·2	+ 3·0	−·0003
38	42·0	80·9		52·8		−·0014	+·0003	− 2·0	+ 2·8	−·0003
44	42·0	81·2		51·9		−·0013	+·0001	− 2·0	+ 2·3	−·0004
50	42·5	81·2		51·3		−·0013	·0000	− 1·7	+ 2·1	−·0005
56	42·9	81·3		51·1		−·0013	·0000	− 1·4	+ 2·1	−·0005
10 02	43·0	81·6	63·7	51·1	63·8	−·0012	·0000	− 1·4	+ 2·0	−·0004
11 02	42·9	82·2	63·6	52·7	63·2	−·0012	+·0002	− 1·5	+ 2·3	−·0003
12 02	43·2	83·6	63·2	51·2	63·2	−·0011	+·0001	− 1·4	+ 2·0	−·0003
13 02	43·2	84·3	62·8	52·0	63·0	−·0012	+·0002	− 1·5	+ 2·3	−·0003
14 02	43·0	85·6	62·7	52·0	62·8	−·0010	+·0002	− 1·7	+ 2·0	−·0002
15 02	43·6	88·8	62·6	49·6	62·8	−·0005	−·0001	− 1·4	+ 0·7	−·0002
16 02	41·5	89·7	62·5	53·2	62·6	−·0004	+·0003	− 2·9	+ 1·2	+·0001
17 02	43·3	87·0	62·2	52·3	62·5	−·0010	+·0002	− 1·7	+ 2·0	−·0002
18 02	43·8	89·1	62·4	49·0	62·6	−·0007	+·0004	− 1·7	+ 1·8	·0000
19 02	44·3	90·2	62·4	49·7	62·5	−·0007	·0000	− 1·5	+ 1·2	−·0002
20 02	42·0	92·6	62·3	54·2	62·4	−·0004	·0000	− 1·7	+ 0·7	−·0001
21 02	39·6	89·5	62·3	57·0	62·4	−·0010	+·0003	− 2·1	+ 2·1	−·0002
22 02	40·9	83·5	62·1	59·8	62·2	−·0020	+·0007	− 0·3	+ 4·4	−·0003
08	40·2	84·0		59·0		−·0019	+·0007	− 0·9	+ 4·3	−·0002
14	40·9	83·9		58·6		−·0019	+·0007	− 0·5	+ 4·3	−·0002
20	40·9	84·4		58·6		−·0018	+·0008	− 0·5	+ 4·3	−·0001
26	40·8	85·4		58·2		−·0016	+·0008	− 0·7	+ 4·0	−·0001
32	40·1	86·4		56·1		−·0014	+·0006	− 1·3	+ 3·3	−·0001
38	40·5	86·6		59·5		−·0014	+·0010	− 1·0	+ 4·0	+·0001
44	41·4	87·9		52·3		−·0011	+·0003	− 0·4	+ 2·3	−·0002
50	41·7	88·8		50·4		−·0010	+·0001	− 0·2	+ 1·8	−·0003
56	42·4	89·3		48·2		−·0009	−·0001	+ 0·2	+ 1·3	−·0004
23 02	43·5	89·4	62·2	46·5	62·4	−·0008	−·0002	+ 1·0	+ 1·0	−·0004
08	44·5	89·6		45·6		−·0007	−·0003	+ 1·6	+ 0·7	−·0004
14	45·1	88·2		45·9		−·0010	−·0003	+ 2·0	+ 1·2	−·0005
20	45·0	86·9		52·1		−·0012	+·0004	+ 1·7	+ 2·6	−·0002
26	44·9	86·2		49·0		−·0013	+·0001	+ 1·5	+ 2·3	−·0004
32	45·0	85·8		49·9		−·0013	+·0002	+ 1·4	+ 2·5	−·0003
38	44·7	85·3		51·7		−·0014	+·0004	+ 1·1	+ 3·0	−·0002
44	43·8	85·0		53·3		−·0014	+·0006	+ 0·3	+ 3·3	−·0001
50	43·0	84·5		54·1		−·0014	+·0007	− 0·5	+ 3·5	·0000
56	42·7	84·4		54·6		−·0014	+·0008	− 0·8	+ 3·6	·0000
17 00 02	42·2	84·1	62·5	54·8	62·6	−·0014	+·0008	− 1·3	+ 3·6	·0000
08	42·2	84·7		53·9		−·0013	+·0007	− 1·4	+ 3·3	·0000
14	42·4	85·1		53·6		−·0012	+·0007	− 1·3	+ 3·1	·0000
20	43·0	85·6		50·5		−·0011	+·0003	− 0·9	+ 2·3	−·0002
26	44·0	85·5		49·4		−·0011	+·0003	− 0·2	+ 2·3	−·0002
32	44·9	85·0		49·5		−·0011	+·0002	+ 0·4	+ 2·1	−·0003
38	44·5	84·2		50·9		−·0012	+·0003	+ 0·1	+ 2·5	−·0002
44	44·5	84·0		52·1		−·0012	+·0005	0·0	+ 2·8	−·0001
50	44·3	84·3		52·5		−·0011	+·0005	− 0·2	+ 2·6	−·0001
56	44·0	83·9		53·0		−·0012	+·0005	− 0·5	+ 2·8	−·0001
01 02	43·7	85·0	62·9	51·1	62·9	−·0010	+·0003	− 0·8	+ 2·1	−·0002
08	44·8	85·2		49·3		−·0009	+·0001	0·0	+ 1·7	−·0003
14	45·8	85·2		48·1		−·0009	−·0001	+ 0·7	+ 1·3	−·0004
20	46·7	85·0		47·0		−·0009	−·0002	+ 1·4	+ 1·2	−·0004
26	46·8	84·0		49·2		−·0011	·0000	+ 1·5	+ 1·8	−·0004
32	46·0	83·4		51·9		−·0011	+·0003	+ 0·8	+ 2·3	−·0002
38	45·0	83·0		52·6		−·0012	+·0004	0·0	+ 2·6	−·0002
44	45·1	82·4		52·6		−·0013	+·0003	+ 0·1	+ 2·6	−·0003
50	45·7	82·9		52·7		−·0012	+·0003	+ 0·5	+ 2·5	−·0002
56	45·5	82·6		52·6		−·0012	+·0003	+ 0·3	+ 2·5	−·0002
02 02	45·7	82·3	63·2	52·3	63·6	−·0013	+·0002	+ 0·5	+ 2·5	−·0003
08	46·0	82·0		52·5		−·0013	+·0003	+ 0·7	+ 2·6	−·0003
14	45·7	81·5		54·0		−·0014	+·0004	+ 0·5	+ 3·0	−·0002

1842.
Cape of Good Hope.
May 17.

OBSERVATIONS OF THE MAGNETOMETERS.

The H. F. was observed 2m. after, and the V. F. 2m. before the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours. $\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
17 02 20	45·0	82·0		54·9		−·0013	+·0005	− 0·1	+ 3·0	−·0001
26	44·5	83·8		54·1		−·0010	+·0004	− 0·5	+ 2·3	−·0001
32	44·4	84·2		53·3		−·0009	+·0003	− 0·6	+ 2·0	−·0001
38	44·4	84·2		52·9		−·0009	+·0002	− 0·6	+ 1·8	−·0002
44	44·4	84·5		52·9		−·0009	+·0002	− 0·6	+ 1·8	−·0002
50	44·1	84·6		52·7		−·0009	+·0002	− 0·8	+ 1·8	−·0002
56	44·4	84·7		51·8		−·0009	+·0001	− 0·6	+ 1·7	−·0003
03 02	45·0	84·6	63·6	51·8	63·6	−·0009	+·0001	− 0·2	+ 1·7	−·0003

TORONTO, 1842. MAY 16.

1842.
Toronto.
May 16.

MEAN MONTHLY READINGS OF THE MAGNETOMETERS.

Mean Göttingen Time.	Declination.	H. F. at 57°·0.	V. F. at 57°·0.	Mean Göttingen Time.	Declination.	H. F. at 57°·0.	V. F. at 57°·0.
Hours.	Sc. Div.	Sc. Div.	Sc. Div.	Hours.	Sc. Div.	Sc. Div.	Sc. Div.
00	137·1	441·7	81·0	12	131·2	455·5	83·3
02	137·5	438·2	80·7	14	131·5	450·7	82·7
04	131·2	429·8	80·7	16	132·7	448·4	82·3
06	124·4	440·7	81·1	18	132·3	446·9	81·5
08	124·0	454·8	82·4	20	132·8	446·3	81·2
10	127·8	459·0	83·0	22	133·4	444·5	81·2

Coefficients (A), Approximate Absolute Values (B.)

(A) Declin. $a = 0'·721$
H. F. $k = ·000074$, $q = ·00026$
V. F. $k = ·000094$, $q = ·00011$

(B) Approx. $\psi = 1°\ 20'$, $X = 3·54$, $Y = 13·44$, $\theta = 75°\ 16'$, $\phi = 13·90$

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 2m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours. $\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
16 00 02	138·4	430·4	54·3	62·7	55·0	−·0015	−·0019	+ 0·9	− 0·3	−·0011
32	112·4	416·5		62·2		−·0025	−·0020	−17·9	+ 0·3	−·0020
38	113·3	396·0		63·0		−·0040	−·0019	−17·2	+ 1·8	−·0020
44	108·8	396·5		63·9		−·0039	−·0018	−20·5	+ 1·8	−·0019
50	112·8	401·6		60·4		−·0035	−·0021	−17·7	+ 1·2	−·0022
56	120·0	391·4		56·5		−·0043	−·0025	−12·4	+ 1·5	−·0026
01 02	122·8	388·3	54·5	61·4	55·0	−·0045	−·0020	−10·5	+ 2·1	−·0022
08	108·8	379·8		60·6		−·0051	−·0021	−20·6	+ 2·5	−·0023
14	115·6	405·6		62·9		−·0031	−·0019	−15·6	+ 1·0	−·0020
20	116·2	423·2		61·8		−·0018	−·0020	−15·2	− 0·2	−·0020
26	110·3	426·5		59·3		−·0015	−·0022	−19·5	− 0·6	−·0022
32	115·7	420·0		59·0		−·0020	−·0022	−15·6	− 0·2	−·0022
38	121·9	413·6		59·1		−·0024	−·0022	−11·2	+ 0·2	−·0022
44	127·3	413·4		60·0		−·0023	−·0021	− 7·3	+ 0·2	−·0021
50	129·0	410·4		60·8		−·0025	−·0020	− 6·2	+ 0·3	−·0020
56	126·8	400·3		62·2		−·0032	−·0019	− 7·7	+ 1·1	−·0020
02 02	129·9	392·7	55·6	64·5	55·5	−·0037	−·0017	− 5·4	+ 1·7	−·0018
08	131·0	388·2		66·1		−·0040	−·0015	− 4·4	+ 1·7	−·0021
14	125·0	381·3		65·8		−·0045	−·0015	− 8·5	+ 2·5	−·0017
20	124·8	378·3		64·6		−·0046	−·0016	− 8·5	+ 2·5	−·0018
26	117·0	371·7		63·6		−·0051	−·0017	−13·9	+ 2·9	−·0019
32	114·0	371·7		64·6		−·0050	−·0016	−15·7	+ 2·9	−·0018
38	115·1	394·3		65·2		−·0033	−·0016	−14·8	+ 1·4	−·0017

1842. Toronto.

May 16.

OBSERVATIONS OF THE MAGNETOMETERS. The Declination was observed 2m. before, and the V. F. 2m. after the times specified.							Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.			$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm.	Sc. Div.	Therm.		Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
16 02 44	116·6	399·6		66·5			−·0028	−·0014	−13·5	+ 1·2	−·0015
50	123·7	398·1		68·3			−·0029	−·0012	− 8·1	+ 1·4	−·0013
56	122·1	403·3		68·6			−·0024	−·0012	− 9·0	+ 1·0	−·0013
03 02	122·2	395·5	56·7	70·0	56·4		−·0029	−·0011	− 8·7	+ 1·5	−·0012
08	122·3	395·3		72·1			−·0029	−·0009	− 8·5	+ 1·7	−·0010
14	121·9	397·5		72·9			−·0027	−·0008	− 8·5	+ 1·6	−·0009
20	120·0	398·8		73·6			−·0024	−·0007	− 9·7	+ 1·4	−·0008
26	119·2	398·4		74·0			−·0024	−·0007	−10·0	+ 1·4	−·0008
32	121·5	403·8		74·5			−·0020	−·0006	− 8·1	+ 1·2	−·0007
38	122·4	400·1		74·5			−·0022	−·0006	− 7·3	+ 1·4	−·0007
44	124·1	400·4		75·4			−·0021	−·0005	− 5·9	+ 1·4	−·0006
50	128·0	407·5		76·8			−·0015	−·0004	− 2·8	+ 0·9	−·0005
56	130·2	404·4		77·8			−·0017	−·0003	− 0·9	+ 1·2	−·0004
04 02	131·0	400·4	57·7	78·6	57·0		−·0020	−·0002	− 0·1	+ 1·5	−·0003
08	130·2	397·5		79·4			−·0022	−·0001	− 0·5	+ 1·8	−·0002
14	130·0	396·6		79·7			−·0023	−·0001	− 0·4	+ 1·9	−·0002
20	127·4	387·6		79·6			−·0030	−·0001	− 2·0	+ 2·4	−·0003
26	126·3	380·0		78·9			−·0036	−·0002	− 2·6	+ 2·9	−·0004
32	124·2	380·4		78·9			−·0036	−·0001	− 3·8	+ 3·0	−·0003
38	122·1	387·6		79·0			−·0031	−·0001	− 5·1	+ 2·5	−·0003
44	119·6	386·6		78·6			−·0032	−·0002	− 6·6	+ 2·5	−·0004
50	119·8	372·3		77·0			−·0042	−·0003	− 6·3	+ 3·3	−·0006
56	126·5	384·6		78·8			−·0034	−·0001	− 1·1	+ 2·8	−·0003
05 02	125·8	400·6	58·5	79·5	57·6		−·0022	−·0001	− 1·4	+ 1·8	−·0002
08	121·5	408·2		80·1			−·0016	·0000	− 4·3	+ 1·4	−·0001
14	118·3	415·4		79·8			−·0011	·0000	− 6·4	+ 0·9	−·0001
20	115·2	416·1		79·5			−·0011	−·0001	− 8·3	+ 0·9	−·0002
26	116·0	413·0		79·3			−·0013	−·0001	− 7·5	+ 1·0	−·0002
32	117·2	416·1		79·9			−·0011	·0000	− 6·4	+ 0·9	−·0001
38	119·4	418·5		80·0			−·0010	·0000	− 4·6	+ 0·9	−·0001
44	121·4	420·5		80·8			−·0008	+·0001	− 2·9	+ 0·8	·0000
50	123·5	425·5		80·9			−·0005	+·0001	− 1·1	+ 0·5	+·0001
56	123·7	431·2		81·1			−·0001	+·0001	− 0·7	+ 0·2	+·0001
06 02	124·0	431·4	59·3	81·0	58·3		−·0001	+·0001	− 0·3	+ 0·2	+·0001
08	125·0	431·8		81·2			−·0001	+·0002	+ 0·4	+ 0·2	+·0002
14	126·2	434·7		81·6			+·0001	+·0002	+ 1·3	+ 0·1	+·0002
20	126·9	436·6		81·8			+·0002	+·0002	+ 1·8	0·0	+·0002
26	127·1	441·4		82·0			+·0005	+·0002	+ 2·0	− 0·2	+·0002
32	126·1	439·8		82·0			+·0004	+·0002	+ 1·3	− 0·2	+·0002
38	125·0	438·7		82·3			+·0003	+·0003	+ 0·5	0·0	+·0003
44	124·8	438·0		81·8			+·0002	+·0002	+ 0·4	0·0	+·0002
50	125·7	434·8		81·7			+·0001	+·0002	+ 1·1	+ 0·1	+·0002
56	126·9	—		—			—	—	+ 1·9	—	—

1842. Van Diemen Island.

May 17—18.

For Mean Monthly Readings *see* page 60.

VAN DIEMEN ISLAND, 1842. MAY 17—18.

17 23 00(a)	51·1	62·8	55·8	42·4	54·0		−·0005	·0000	−13·2	+ 0·6	−·0001
10	56·6	—		—			—	—	− 9·3	—	—
15	58·0	73·8		34·2			+·0006	−·0003	− 8·3	− 1·0	−·0002
20	58·5	—		—			—	—	− 7·9	—	—
25	59·9	72·6		34·2			+·0005	−·0002	− 6·9	− 0·8	−·0001
30	61·3	—		—			—	—	− 5·9	—	—
35	62·7	70·1		36·0			+·0002	−·0001	− 4·9	− 0·3	−·0001
40	64·6	—		—			—	—	− 3·6	—	—
45	65·6	67·5		34·7			−·0001	−·0001	− 2·8	− 0·2	−·0001
50	67·4	—		—			—	—	− 1·5	—	—
55	68·5	68·5		42·3			·0000	−·0002	− 0·7	− 0·2	−·0002
18 00 00	67·9	64·8	55·0	42·3	55·0		−·0004	+·0002	− 5·1	− 3·5	−·0004

(a) The H. F. was observed 2m. 30s. before, and the V. F. 2m. 30s. after the times specified.

CAPE OF GOOD HOPE, 1842. MAY 20, 22—26.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 2m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.			Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D.	H.	M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
20	20	02	44·9	95·1	61·9	54·0	62·0	−·0004	+·0001	+ 0·5	+ 0·8	−·0001
		08	—	95·5		55·3		·0000	+·0001	—	+ 0·2	+·0001
		14	44·1	95·4		55·3		·0000	+·0001	+ 0·2	+ 0·2	+·0001
		20	44·0	95·8		55·2		+·0001	+·0001	+ 0·2	0·0	+·0001
		26	43·9	96·1		55·0		+·0001	+·0001	+ 0·3	0·0	+·0001
		32	43·4	96·0		55·0		+·0001	+·0001	+ 0·2	0·0	+·0001
		38	43·0	96·2		55·0		+·0001	+·0001	0·0	0·0	+·0001
		44	42·8	96·5		54·8		+·0002	·0000	0·0	− 0·3	+·0001
		50	42·7	96·5		54·7		+·0002	·0000	+ 0·1	− 0·3	+·0001
		56	42·4	96·6		54·7		+·0002	·0000	0·0	− 0·3	+·0001
	21	02	42·1	96·5	61·9	54·2	62·2	+·0002	−·0001	− 0·1	− 0·5	·0000
		08	41·8	96·3		54·1		+·0001	−·0001	− 0·2	− 0·3	·0000
		14	41·8	96·3		53·8		+·0002	−·0001	− 0·2	− 0·5	·0000
		20	41·8	95·7		53·8		+·0001	·0000	− 0·1	− 0·2	·0000
		26	41·7	96·3		53·7		+·0002	·0000	− 0·1	− 0·3	+·0001
		32	41·9	95·8		53·8		+·0001	·0000	+ 0·2	− 0·2	·0000
		38	41·6	95·5		54·0		+·0001	·0000	− 0·1	− 0·2	·0000
		44	41·5	95·4		53·9		+·0001	·0000	− 0·1	− 0·2	·0000
		50	41·5	95·0		53·9		·0000	·0000	0·0	0·0	·0000
		56	41·4	94·9		53·9		·0000	+·0001	0·0	+ 0·2	+·0001
	22	02	41·4	94·9	62·1	53·6	62·5	·0000	+·0001	+ 0·1	+ 0·2	+·0001
		08	41·0	94·8		53·2		·0000	+·0001	− 0·3	+ 0·2	+·0001
		14	40·9	94·4		52·8		·0000	+·0001	− 0·5	+ 0·2	+·0001
		20	41·0	94·2		52·3		·0000	+·0001	− 0·5	+ 0·2	+·0001
		26	41·1	94·1		51·9		·0000	+·0001	− 0·5	+ 0·2	+·0001
		32	41·2	94·0		51·1		·0000	+·0001	− 0·5	+ 0·2	+·0001
		38	41·2	94·0		50·8		·0000	+·0001	− 0·5	+ 0·2	+·0001
		44	41·2	94·0		50·2		·0000	+·0001	− 0·5	+ 0·2	+·0001
		50	41·2	94·0		49·7		+·0001	+·0001	− 0·6	0·0	+·0001
		56	41·2	94·0		49·2		+·0001	+·0001	− 0·7	0·0	+·0001
	23	02	41·2	94·0	62·5	49·2	62·7	+·0001	+·0001	− 0·8	0·0	+·0001
22	20	02	43·5	96·9	60·8	54·6	61·0	+·0002	·0000	− 0·6	− 0·3	+·0001
		08	43·3	96·9		55·3		·0000	+·0001	− 0·6	+ 0·2	+·0001
		14	42·9	97·1		55·5		·0000	+·0001	− 0·8	+ 0·2	+·0001
		20	42·7	96·9		55·9		·0000	+·0001	− 0·8	+ 0·2	+·0001
		26	42·3	96·9		56·2		·0000	+·0001	− 0·9	+ 0·2	+·0001
		32	42·0	97·3		56·2		·0000	+·0001	− 0·9	+ 0·2	+·0001
		38	41·9	97·5		56·0		+·0001	+·0001	− 0·8	0·0	+·0001
		44	41·6	97·2		56·0		·0000	+·0001	− 0·9	+ 0·2	+·0001
		50	41·5	97·3		56·0		·0000	+·0001	− 0·8	+ 0·2	+·0001
		56	41·3	97·2		56·0		·0000	+·0001	− 0·8	+ 0·2	+·0001
	21	02	41·1	97·0	60·9	56·0	61·1	·0000	+·0001	− 0·8	+ 0·2	+·0001
26	19	02	46·2	98·6	59·3	51·1	59·3	+·0002	·0000	− 0·1	− 0·3	+·0001
		38	45·7	99·9		53·0		+·0001	−·0001	+ 0·5	− 0·3	·0000
		44	45·2	99·8		53·2		+·0001	−·0001	+ 0·2	− 0·3	·0000
		50	45·0	100·0		53·7		+·0001	−·0001	+ 0·2	− 0·3	·0000
		56	45·0	100·0		54·1		+·0001	+·0001	+ 0·4	0·0	+·0001
	20	02	44·7	100·3	59·2	54·5	59·1	+·0001	+·0001	+ 0·3	0·0	+·0001
		08	44·3	100·3		54·5		+·0001	+·0001	+ 0·2	0·0	+·0001
		14	44·1	100·3		54·5		+·0001	+·0001	+ 0·2	0·0	+·0001
		20	43·7	100·3		54·4		+·0001	+·0002	+ 0·2	+ 0·2	+·0002
		26	43·5	100·5		55·8		+·0001	+·0002	0·0	+ 0·2	+·0002
		32	43·1	100·3		55·8		+·0001	+·0002	− 0·1	+ 0·2	+·0002
		38	43·0	100·2		56·8		+·0001	+·0003	0·0	+ 0·3	+·0002
		44	42·9	100·1		57·0		+·0001	+·0003	+ 0·1	+ 0·3	+·0002
		50	42·8	100·2		57·1		+·0001	+·0003	+ 0·2	+ 0·3	+·0002
		56	42·6	100·0		57·4		·0000	+·0003	+ 0·2	+ 0·5	+·0002
	21	02	42·7	100·4	59·1	59·2	59·2	+·0001	+·0003	+ 0·4	+ 0·3	+·0002

1842.
Cape of Good Hope.

June 3—4.

CAPE OF GOOD HOPE, 1842. JUNE 3—4.

MEAN MONTHLY READINGS OF THE MAGNETOMETERS.

Mean Göttingen Time.	Declination.	H. F. at 58°·4.	V. F. at 58°·5.	Mean Göttingen Time.	Declination.	H. F. at 58°·4.	V. F. at 58°·5.
Hours.	Sc. Div.	Sc. Div.	Sc. Div.	Hours.	Sc. Div.	Sc. Div.	Sc. Div.
00	44·4	96·0	49·6	12	45·5	94·9	51·2
01	45·2	95·5	48·8	13	45·7	95·0	50·5
02	45·8	95·7	49·3	14	46·0	95·1	50·4
03	45·8	96·3	50·9	15	46·1	95·6	50·4
04	45·2	97·8	51·4	16	45·9	95·8	50·9
05	44·7	97·3	52·2	17	46·0	95·7	50·6
06	44·7	96·7	51·9	18	46·6	96·3	49·3
07	44·8	95·1	52·9	19	47·4	97·1	48·4
08	44·5	94·3	53·6	20	46·4	98·2	51·2
09	44·8	94·1	52·8	21	44·5	97·5	53·2
10	45·1	94·4	51·7	22	43·4	97·9	52·6
11	45·3	94·9	51·5	23	43·5	96·8	50·6

Coefficients (A), Approximate Absolute Values (B.)

(A)
- Declin. $a = 0'\cdot751$
- H. F. $k = \cdot00018$, $q = \cdot00028$
- V. F. $k = \cdot00011$, $q = \cdot00005$

(B) Approx.
- $\psi = 29°\ 05'$
- $X = 4\cdot46$
- $Y = 6\cdot00$
- $\theta = -\ 53°\ 12'$
- $\phi = 7\cdot50$

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 2m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
3 19 02	46·3	103·4	54·6	56·0	54·8	+·0001	+·0007	− 0·8	+ 1·0	+·0005
38	44·9	104·2		58·0		+·0001	+·0007	− 1·4	+ 1·0	+·0005
44	44·1	104·3		58·3		+·0001	+·0007	− 2·0	+ 1·0	+·0005
50	44·1	104·6		58·6		+·0001	+·0007	− 1·9	+ 1·0	+·0005
56	43·9	104·6		58·7		+·0001	+·0007	− 2·0	+ 1·0	+·0005
20 02	43·8	104·4	54·7	58·8	55·0	+·0001	+·0006	− 2·0	+ 0·8	+·0004
08	43·1	104·5		58·9		+·0001	+·0006	− 2·3	+ 0·8	+·0004
14	42·6	104·9		59·5		+·0002	+·0007	− 2·6	+ 0·8	+·0005
20	42·7	104·7		59·8		+·0002	+·0007	− 2·3	+ 0·8	+·0005
26	42·3	104·8		59·5		+·0002	+·0006	− 2·5	+ 0·7	+·0005
32	42·4	104·5		59·9		+·0002	+·0007	− 2·3	+ 0·8	+·0005
38	42·3	104·6		59·9		+·0002	+·0006	− 2·3	+ 0·7	+·0005
44	41·7	104·5		59·7		+·0002	+·0006	− 2·6	+ 0·7	+·0005
50	42·0	104·4		59·7		+·0002	+·0006	− 2·2	+ 0·7	+·0005
56	41·5	104·1		59·8		+·0001	+·0006	− 2·4	+ 0·8	+·0004
21 02	41·8	104·2	54·7	59·6	55·0	+·0002	+·0005	− 2·0	+ 0·5	+·0004
08	41·4	104·2		58·9		+·0002	+·0005	− 2·3	+ 0·5	+·0004
14	41·1	103·6		58·1		+·0001	+·0004	− 2·4	+ 0 5	+·0003
20	41·2	102·9		60·0		−·0001	+·0006	− 2·3	+ 1·2	+·0004
26	41·4	102·5		60·0		−·0002	+·0006	− 2·0	+ 1·3	+·0003
32	41·3	102·7		60·0		−·0001	+·0006	− 2·0	+ 1·2	+·0004
22 02	42·2	102·0	54·9	57·8	55·1	−·0003	+·0004	− 0·9	+ 1·2	+·0002
23 02	45·1	101·2	54·9	52·5	55·0	−·0002	:0000	+ 1·2	+ 0·3	−·0001
4 00 02	45·7	102·1	54·9	51·1	55·1	+·0001	·0000	+ 1·0	− 0·2	·0000
01 02	46·7	101·6	55·0	51·8	55·3	+·0001	+·0002	+ 1·1	+ 0·2	+·0002
02 02	46·1	102·0	55·4	53·5	55·6	+·0003	+·0003	+ 0·2	0·0	+·0003
03 02	45·5	103·0	55·6	54·2	55·8	+·0004	+·0002	− 0·2	− 0·3	+·0003
04 02	45·6	110·7	55·8	44·8	56·1	+·0016	−·0009	+ 0·3	− 4·1	·0000
05 02	45·4	108·6	55·9	49·6	56·0	+·0013	−·0004	+ 0·5	− 2·8	+·0002
06 02	45·5	106·0	55·8	53·0	55·9	+·0009	·0000	+ 0·6	− 1·5	+·0003
07 02	43·8	90·2	55·8	68·4	55·9	−·0016	+·0016	− 0·8	+ 5·3	+·0005
08	41·6	86·8		79·5		−·0022	+·0028	− 2·4	+ 8·2	+·0010
14	40·4	83·3		85·2		−·0028	+·0034	− 3·2	+10·2	+·0012
20	38·0	80·5		91·2		−·0033	+·0041	− 5·0	+12·2	+·0015
26	36·5	77·3		95·1		−·0038	+·0045	− 6·2	+13·7	+·0015
32	35·0	75·8		94·8		−·0041	+·0045	− 7·2	+14·2	+·0014
38	35·9	74·9		95·6		−·0042	+.0045	− 6·5	+14·3	+·0015
44	35·0	75·6		97·2		−·0041	+·0047	− 7·2	+14·5	+·0016

1842.
Cape of Good Hope.
June 4.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 2m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
4 07 50	33·6	79·5		91·3		−·0033	+·0041	− 8·3	+12·2	+·0015
56	34·0	82·0		86·8		−·0029	+·0036	− 7·9	+10·7	+·0013
08 02	35·0	84·0	56·2	81·6	56·4	−·0025	+·0030	− 7·1	+ 9·1	+·0010
08	36·0	85·5		77·7		−·0022	+·0026	− 6·4	+ 7·9	+·0009
14	37·3	86·4		73·4		−·0020	+·0021	− 5·5	+ 6·8	+·0006
20	39·2	86·5		70·4		−·0019	+·0018	− 4·1	+ 6·1	+·0005
26	40·0	86·0		68·9		−·0020	+·0016	− 3·5	+ 5·9	+·0003
32	40·9	86·2		67·9		−·0019	+·0015	− 2·9	+ 5·6	+·0003
38	41·0	86·5		67·2		−·0019	+·0015	− 2·9	+ 5·6	+·0003
44	41·3	88·0		65·2		−·0016	+·0013	− 2·6	+ 4·8	+·0003
50	40·9	84·8		67·6		−·0021	+·0015	− 2·9	+ 5·9	+·0002
56	40·0	85·7		67·1		−·0019	+·0015	− 3·6	+ 5·6	+·0003
09 02	40·7	86·0	56·9	64·5	56·8	−·0019	+·0012	− 3·1	+ 5·1	+·0001
08	42·2	87·6		61·0		−·0016	+·0008	− 2·0	+ 4·0	−·0001
14	43·0	87·5		59·7		−·0016	+·0007	− 1·4	+ 3·8	−·0001
20	43·4	87·9		58·7		−·0016	+·0006	− 1·1	+ 3·6	−·0002
26	43·9	87·7		58·3		−·0016	+·0006	− 0·8	+ 3·6	−·0002
32	43·8	88·2		58·3		−·0015	+·0006	− 0·9	+ 3·5	−·0001
38	44·0	88·6		57·9		−·0015	+·0006	− 0·8	+ 3·5	−·0001
44	43·9	89·6		57·3		−·0013	+·0005	− 0·9	+ 3·0	−·0001
50	43·9	89·3		58·0		−·0014	+·0006	− 0·9	+ 3·3	−·0001
56	43·6	89·0		58·6		−·0014	+·0007	− 1·1	+ 3·5	·0000
10 02	43·6	89·2	56·8	58·6	56·8	−·0014	+·0007	− 1·1	+ 3·5	·0000

1842.
St. Helena.
June 4.

ST. HELENA, 1842. JUNE 4.

MEAN MONTHLY READINGS OF THE MAGNETOMETERS.

Mean Göttingen Time.	Declination.	H. F. at 63°·1.	V. F. at 62°·9.	Mean Göttingen Time.	Declination.	H. F. at 63°·1.	V. F. at 62°·9.
Hours.	Sc. Div.	Sc. Div.	Sc. Div.	Hours.	Sc. Div.	Sc. Div.	Sc. Div.
00	23·2	69·5	8·0	12	23·6	61·3	7·9
01	23·0	69·3	—	14	23·9	61·5	7·8
02	22·9	68·5	8·3	15	23·7	62·0	—
03	23·0	67·2	—	16	23·8	62·0	7·4
04	23·2	66·6	8·4	18	24·2	62·3	7·2
05	22·6	65·6	—	19	24·9	62·6	—
06	22·1	64·6	8·5	20	26·5	63·2	7·2
08	22·2	61·6	8·3	21	25·6	64·4	—
10	23·0	61·5	8·1	22	24·0	66·3	7·3
11	23·2	61·5	—	23	23·1	68·1	—

Coefficients (A), Approximate Absolute Values (B.)

(A)
- Declin. $a = 0'·711$
- H. F. $k = ·00019$, $q = ·00028$
- V. F. $k = ·0006$, $q = ·00002$

(B) Approx.
- $\psi = 23°06'$
- $X = 5·57$
- $Y = 2·20$
- $\theta = -21°32'$
- $\phi = 6·00$

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 2m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
4 04 02	18·6	77·0	63·9	6·9	63·5	+·0022	−·0009	− 3·2	− 3·5	+·0018
14	18·0	77·0		6·8		+·0022	−·0010	− 3·7	− 3·8	+·0018
20	17·9	76·8		6·8		+·0022	−·0010	− 3·7	− 3·8	+·0018
26	18·0	75·6		6·8		+·0020	−·0010	− 3·6	− 3·5	+·0016
32	18·1	75·8		6·8		+·0021	−·0010	− 3·4	− 3·5	+·0017
38	18·1	76·0		6·8		+·0022	−·0010	− 3·3	− 3·8	+·0018

1842.
St. Helena.

June 4.

OBSERVATIONS OF THE MAGNETOMETERS. The Declination was observed 2m. before, and the V. F. 2m. after the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
4 04 44	18·0	77·0		6·8		+·0024	−·0010	− 3·4	− 4·0	+·0019
50	18·0	76·0		6·8		+·0022	−·0010	− 3·3	− 3·8	+·0018
56	18·0	75·5		6·8		+·0021	−·0010	− 3·3	− 3·5	+·0017
05 02	18·0	74·9	64·0	6·8	63·4	+·0020	−·0010	− 3·2	− 3·5	+·0016
08	18·0	74·5		7·0		+·0020	−·0009	− 3·2	− 3·4	+·0016
14	17·9	74·1		7·0		+·0019	−·0009	− 3·2	− 3·3	+·0015
20	17·9	74·5		7·0		+·0020	−·0009	− 3·2	− 3·4	+·0016
26	17·9	74·3		7·0		+·0020	−·0009	− 3·2	− 3·4	+·0016
32	17·9	74·0		7·0		+·0019	−·0009	− 3·1	− 3·3	+·0015
38	17·6	74·0		7·0		+·0019	−·0009	− 3·3	− 3·3	+·0015
44	17·1	73·8		7·0		+·0019	−·0009	− 3·7	− 3·3	+·0015
50	17·0	73·0		7·0		+·0018	−·0009	− 3·7	− 3·2	+·0014
56	17·0	72·3		7·0		+·0016	−·0009	− 3·7	− 2·8	+·0013
06 02	16·8	72·0	63·8	7·2	63·3	+·0016	−·0008	− 3·8	− 2·8	+·0013
08	16·5	71·0		6·9		+·0014	−·0010	− 4·0	− 2·8	+·0011
14	16·1	70·2		7·3		+·0013	−·0007	− 4·3	− 2·4	+·0010
20	16·1	69·3		6·9		+·0012	−·0010	− 4·3	− 2·6	+·0009
26	15·9	68·9		6·6		+·0011	−·0011	− 4·4	− 2·6	+·0008
32	15·3	66·9		6·6		+·0008	−·0011	− 4·9	− 2·1	+·0006
38	15·3	64·1		6·6		+·0003	−·0011	− 4·9	− 1·7	+·0001
44	15·0	62·8		6·6		+·0001	−·0011	− 5·1	− 1·4	−·0001
50	15·0	60·9		6·6		−·0003	−·0011	− 5·1	− 0·9	−·0004
56	15·0	59·1		6·6		−·0006	−·0011	− 5·1	− 0·6	−·0007
07 02	14·5	56·8	63·8	6·6	63·4	−·0010	−·0011	− 5·5	− 0·1	−·0010
08	13·3	53·4		6·6		−·0016	−·0011	− 6·3	+ 0·6	−·0015
14	12·8	50·5		6·6		−·0022	−·0011	− 6·7	+ 1·3	−·0021
20	12·0	47·5		6·3		−·0027	−·0013	− 7·2	+ 1·7	−·0025
26	11·1	45·0		6·3		−·0031	−·0013	− 7·9	+ 2·1	−·0029
32	10·5	43·1		6·3		−·0035	−·0012	− 8·3	+ 2·7	−·0032
38	11·2	42·1		6·3		−·0037	−·0012	− 7·8	+ 2·8	−·0034
44	11·2	42·2		6·3		−·0036	−·0012	− 7·8	+ 2·8	−·0033
50	11·0	43·8		6·3		−·0033	−·0012	− 7·9	+ 2·5	−·0030
56	11·2	45·6		6·6		−·0029	−·0010	− 7·8	+ 2·1	−·0027
08 02	11·4	47·2	63·7	6·6	63·4	−·0026	−·0010	− 7·7	+ 1·9	−·0024
08	11·6	48·8		6·6		−·0023	−·0010	− 7·5	+ 1·4	−·0021
14	11·8	49·6		6·8		−·0021	−·0009	− 7·5	+ 1·4	−·0019
20	13·0	50·0		7·0		−·0020	−·0008	− 6·6	+ 1·4	−·0018
26	13·8	50·0		8·1		−·0020	−·0008	− 6·1	+ 2·1	−·0018
32	13·9	50·0		7·4		−·0020	−·0005	− 6·1	+ 1·8	−·0018
38	—	50·8		8·1		−·0019	−·0001	—	+ 2·1	−·0017
44	14·4	52·4		7·7		−·0016	−·0003	− 5·8	+ 1·4	−·0014
50	13·4	50·0		7·3		−·0020	−·0005	− 6·5	+ 1·8	−·0018
56	13·4	50·8		7·3		−·0019	−·0005	− 6·5	+ 1·7	−·0017
09 02	14·0	51·0	63·7	7·6	63·3	−·0018	−·0004	− 6·1	+ 1·7	−·0016
08	15·0	52·8		8·0		−·0015	−·0001	− 5·4	+ 1·7	−·0013
14	15·0	53·6		7·8		−·0014	−·0002	− 5·5	+ 1·4	−·0012
20	15·0	—		—		—	—	− 5·5	—	—
26	15·2	53·2		8·6		−·0014	+·0002	− 5·4	+ 1·9	−·0012
32	15·2	53·8		8·6		−·0013	+·0003	− 5·4	+ 1·9	−·0011
38	15·6	54·0		8·6		−·0013	+·0003	− 5·1	+ 1·9	−·0011
44	16·0	55·0		8·6		−·0011	+·0003	− 4·9	+ 1·7	−·0009
50	16·0	55·0		8·6		−·0011	+·0003	− 4·9	+ 1·7	−·0009
56	15·6	55·0		8·6		−·0011	+·0003	− 5·3	+ 1·7	−·0009
10 02	15·1	55·2	63·6	8·8	63·2	−·0011	+·0004	− 5·6	+ 1·8	−·0009
08	15·3	55·3		8·3		−·0011	+·0001	− 5·5	+ 1·4	−·0009
14	15·5	55·0		8·7		−·0011	+·0004	− 5·4	+ 1·8	−·0009
20	15·8	54·0		9·7		−·0013	+·0010	− 5·2	+ 2·7	−·0010
26	15·3	53·0		9·1		−·0015	+·0006	− 5·6	+ 2·5	−·0012
32	14·9	51·9		9·0		−·0018	+·0006	− 5·8	+ 2·8	−·0015
38	14·2	50·9		9·0		−·0020	+·0006	− 6·3	+ 3·1	−·0016
44	14·1	49·7		8·6		−·0022	+·0004	− 6·4	+ 3·1	−·0018
50	14·0	48·8		8·6		−·0024	+·0004	− 6·5	+ 3·3	−·0020
56	14·0	48·0		8·6		−·0026	+·0004	− 6·5	+ 3·5	−·0022
11 02	14·1	47·1	63·1	9·0		−·0027	+·0006	− 6·5	+ 3·9	−·0023
08	14·2	46·1		8·8	63·2	−·0029	+·0005	− 6·4	+ 4·0	−·0024

1842. St. Helena. June 4.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 2m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
						$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
4 11 14	14·0	45·1		8·6		−·0031	+·0004	− 6·6	+ 4·1	−·0026
20	13·6	44·9		8·6		−·0031	+·0004	− 6·9	+ 4·1	−·0026
26	13·7	44·1		8·6		−·0033	+·0004	− 6·9	+ 4·2	−·0028
32	14·0	44·1		8·6		−·0033	+·0004	− 6·7	+ 4·2	−·0028
38	14·2	44·9		8·8		−·0031	+·0005	− 6·5	+ 4·2	−·0026
44	14·7	45·0		8·8		−·0031	+·0005	− 6·3	+ 4·2	−·0026
50	15·0	46·0		8·8		−·0029	+·0005	− 6·1	+ 4·0	−·0024
56	15·0	46·2		8·8		−·0029	+·0005	− 6·1	+ 4·0	−·0024
12 02	15·0	46·9	63·1	9·5	63·1	−·0027	+·0010	− 6·1	+ 4·2	−·0022
08	14·8	47·7		9·6		−·0026	+·0010	− 6·3	+ 4·2	−·0021
14	14·9	49·4		9·0		−·0023	+·0007	− 6·2	+ 3·5	−·0019
20	14·9	51·9		9·0		−·0018	+·0007	− 6·3	+ 2·8	−·0015
26	15·9	52·9		9·2		−·0016	+·0008	− 5·6	+ 2·8	−·0013
32	16·1	55·0		9·2		−·0012	+·0008	− 5·4	+ 2·4	−·0009
38	15·9	56·9		9·0		−·0009	+·0007	− 5·6	+ 1·9	−·0007
44	14·6	56·8		8·7		−·0009	+·0005	− 6·5	+ 1·7	−·0007
50	14·0	56·2		8·7		−·0010	+·0005	− 7·0	+ 1·8	−·0008
56	13·2	56·0		8·7		−·0010	+·0005	− 7·5	+ 1·8	−·0008
13 02	13·7	56·0	63·1	7·9	63·2	−·0010	·0000	− 7·2	+ 1·2	−·0009
08	13·2	55·9		7·9		−·0011	·0000	− 7·5	+ 1·3	−·0010
14	12·0	55·6		7·9		−·0011	·0000	− 8·4	+ 1·3	−·0010
20	12·3	56·5		7·9		−·0009	·0000	− 8·2	+ 0·9	−·0008
26	12·3	56·5		7·9		−·0009	·0000	− 8·2	+ 0·9	−·0008
32	13·3	55·2		8·5		−·0012	+·0004	− 7·5	+ 1·9	−·0010
38	14·3	54·1		8·7		−·0014	+·0005	− 6·8	+ 2·1	−·0012
44	14·6	53·2		8·7		−·0016	+·0005	− 6·6	+ 2·5	−·0013
50	15·0	52·1		8·7		−·0018	+·0005	− 6·3	+ 2·7	−·0015
56	15·4	52·0		8·8		−·0018	+·0006	− 6·1	+ 2·8	−·0015

1842. Toronto. June 4.

TORONTO, 1842. JUNE 4.

MEAN MONTHLY READINGS OF THE MAGNETOMETERS.

Mean Göttingen Time.	Declination.	H. F. at 62°·2	V. F. at 61°·9.	Mean Göttingen Time.	Declination.	H. F. at 62°·2	V. F. at 61°·9.
Hours.	Sc. Div.	Sc. Div.	Sc. Div.	Hours.	Sc. Div.	Sc. Div.	Sc. Div.
00	136·3	438·1	72·6	12	128·2	440·7	75·0
02	137·3	428·8	72·4	14	130·1	436·9	74·7
04	132·0	419·5	71·5	16	130·9	433·2	71·4
06	123·6	422·9	70·9	18	130·9	429·2	70·2
08	120·8	433·5	72·5	20	129·9	427·9	70·5
10	124·4	444·8	74·2	22	130·8	429·7	71·6

Coefficients (A), Approximate Absolute Values (B).

(A) Declin. $a = 0'·721$; H. F. $k = ·000074$, $q = ·00026$; V. F. $k = ·000094$, $q = ·00011$

(B) Approx. $\psi = 1°\,21'$, $X = 3·54$, $Y = 13·44$, $\theta = 75°\,16'$, $\phi = 13·90$

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the H. F. 2m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
						$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
4 08 02	105·9	389·9	63·0	80·5	62·0	−·0032	+·0008	−10·7	+ 3·4	+·0005
14	112·3	408·7		82·0		−·0018	+·0009	− 6·4	+ 2·3	+·0007
20	113·6	420·7		80·8		−·0010	+·0008	− 5·5	+ 1·5	+·0007
26	111·5	419·3		80·0		−·0011	+·0007	− 7·2	+ 1·5	+·0006

1842.
Toronto.

June 4.

OBSERVATIONS OF THE MAGNETOMETERS. The Declination was observed 2m. before, and the V. F. 2m. after the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
4 08 32	114·2	418·0		79·5		−·0013	+·0007	− 5·4	+ 1·7	+·0006
38	116·7	427·3		79·1		−·0006	+·0006	− 3·7	+ 1·0	+·0005
44	117·1	444·3		80·6		+·0006	+·0008	− 3·6	+ 0·2	+·0008
50	120·2	424·3		78·7		−·0009	+·0006	− 1·4	+ 1·3	+·0005
56	117·9	421·5		79·0		−·0011	+·0006	− 3·3	+ 1·4	+·0005
09 02	116·3	425·4	63·8	78·5	62·7	−·0009	+·0006	− 4·5	+ 1·3	+·0005
08	118·0	441·0		79·3		+·0002	+·0006	− 3·5	+ 0·3	+·0006
14	118·3	442·8		78·8		+·0003	+·0006	− 3·4	+ 0·2	+·0006
20	119·7	440·3		78·0		+·0001	+·0005	− 2·5	+ 0·3	+·0005
26	120·2	445·5		76·6		+·0005	+·0004	− 2·3	− 0·1	+·0004
32	121·2	442·5		76·2		+·0002	+·0004	− 1·6	+ 0·2	+·0004
38	121·6	451·0		75·8		+·0008	+·0003	− 1·5	− 0·3	+·0003
44	122·8	473·9		77·9		+·0025	+·0005	− 0·8	− 1·7	+·0006
50	122·8	480·5		76·7		+·0029	+·0004	− 0·8	− 2·1	+·0002
56	122·6	479·8		76·1		+·0028	+·0004	− 1·1	− 2·0	+·0006
10 02	122·1	481·0	64·6	76·5	63·5	+·0029	+·0004	− 1·6	− 2·1	+·0002
08	120·5	498·2		77·7		+·0042	+·0005	− 3·0	− 3·1	+·0007
14	119·9	508·1		79·1		+·0049	+·0006	− 3·5	− 3·6	+·0009
20	121·6	526·1		80·1		+·0063	+·0007	− 2·5	− 4·7	+·0011
26	121·6	512·0		79·5		+·0053	+·0007	− 2·6	− 3·9	+·0010
32	119·5	503·6		79·9		+·0047	+·0007	− 4·2	− 3·4	+·0010
38	116·8	504·0		81·1		+·0047	+·0008	− 6·3	− 3·3	+·0011
44	117·2	485·5		81·1		+·0034	+·0008	− 6·2	− 2·2	+·0010
50	115·9	478·9		82·2		+·0029	+·0010	− 7·2	− 1·6	+·0011
56	114·8	476·9		83·8		+·0028	+·0011	− 8·1	− 1·4	+·0012
11 02	118·0	472·3	65·4	85·1	64·1	+·0025	+·0012	− 6·0	− 1·1	+·0013
08	121·9	472·0		84·9		+·0025	+·0012	− 3·3	− 1·1	+·0013
14	120·9	453·6		84·9		+·0011	+·0012	− 4·2	+ 0·1	+·0012
20	117·3	450·8		87·0		+·0009	+·0014	− 6·9	+ 0·3	+·0014
26	119·0	464·0		89·0		+·0019	+·0016	− 5·9	− 0·2	+·0016
32	118·9	465·9		89·9		+·0021	+·0017	− 6·1	− 0·3	+·0017
38	121·0	470·3		90·9		+·0024	+·0018	− 4·6	− 0·5	+·0018
44	121·6	478·5		90·6		+·0030	+·0017	− 4·3	− 1·1	+·0018
50	121·9	473·7		91·9		+·0027	+·0019	− 4·2	− 0·7	+·0019
56	122·3	469·1		92·9		+·0024	+·0019	− 4·1	− 0·3	+·0019
12 02	123·8	464·0	65·5	92·3	64·5	+·0026	+·0019	− 3·2	− 0·6	+·0019
08	124·6	461·2		94·9		+·0024	+·0021	− 2·7	− 0·2	+·0021
14	126·4	480·2		98·7		+·0038	+·0025	− 1·4	− 1·1	+·0026
20	117·2	498·5		107·0		+·0052	+·0033	− 8·1	− 1·6	+·0034
26	120·8	480·5		123·6		+·0039	+·0048	− 5·6	+ 0·8	+·0047
32	144·4	527·5		129·8		+·0074	+·0054	+11·3	− 1·7	+·0055
38	169·2	542·0		121·1		+·0085	+·0046	+29·1	− 3·3	+·0049
44	167·7	466·7		96·9		+·0029	+·0023	+28·0	− 0·5	+·0023
50	156·9	437·5		86·5		+·0008	+·0014	+20·0	+ 0·5	+·0014
56	154·7	445·2		79·8		+·0014	+·0007	+18·4	− 0·6	+·0007
13 02	141·6	441·2	65·7	81·8	64·5	+·0011	+·0009	+ 8·9	− 0·2	+·0009
08	136·7	431·4		85·5		+·0004	+·0013	+ 5·3	+ 0·8	+·0012
14	136·1	439·2		89·9		+·0010	+·0017	+ 4·8	+ 0·6	+·0017
20	137·5	444·2		93·1		+·0014	+·0020	+ 5·8	+ 0·5	+·0020
26	137·2	444·9		93·1		+·0015	+·0020	+ 5·4	+ 0·4	+·0020
32	130·3	445·1		99·5		+·0015	+·0026	+ 0·4	+ 0·9	+·0025
38	130·6	424·3		95·1		·0000	+·0022	+ 0·6	+ 1·9	+·0021
44	126·7	413·7		94·6		−·0008	+·0022	− 2·3	+ 2·5	+·0020
50	125·4	412·2		94·5		−·0009	+·0022	− 3·3	+ 2·6	+·0020
56	126·0	414·7		93·9		−·0007	+·0021	− 2·9	+ 2·4	+·0019
14 02	131·1	419·6	66·0	91·4	64·9	−·0003	+·0019	+ 0·7	+ 1·9	+·0018
08	127·7	426·4		105·0		+·0002	+·0032	− 1·7	+ 2·5	+·0030
14	140·4	419·7		97·1		−·0003	+·0025	+ 7·3	+ 2·4	+·0023
20	165·0	391·7		88·1		−·0023	+·0017	+25·1	+ 3·4	+·0014
26	180·5	406·6		75·7		−·0012	+·0005	+36·2	+ 1·4	+·0004
32	180·1	402·9		65·0		−·0015	−·0004	+35·9	+ 0·9	−·0005
38	161·5	431·0		45·1		+·0006	−·0023	+22·4	− 2·4	−·0021
44	117·7	418·2		39·0		−·0004	−·0028	− 9·1	− 2·0	−·0026

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 2m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
4 14 50	88·4	410·4		38·0		−·0009	−·0029	−30·2	− 1·7	−·0028
56	70·2	318·1		61·7		−·0078	−·0006	−43·5	+ 6·1	−·0011
15 02	129·1	399·3	65·7	49·3	66·0	−·0017	−·0018	− 1·0	− 0·1	−·0018
08	123·0	421·3		48·8		−·0001	−·0018	− 5·4	− 1·4	−·0017
14	105·1	384·8		57·8		−·0028	−·0009	−18·4	+ 1·6	−·0010
20	118·3	374·4		62·4		−·0036	−·0005	− 8·8	+ 2·6	−·0007
26	134·0	405·2		70·0		−·0013	+·0002	+ 2·4	+ 1·3	+·0001
32	146·7	407·8		68·3		−·0011	+·0001	+11·5	+ 1·0	·0000
38	152·3	384·5		61·0		−·0028	−·0006	+15·5	+ 1·9	−·0007
44	152·0	403·8		57·5		−·0013	−·0009	+15·2	+ 0·3	−·0009
50	147·1	399·4		54·2		−·0017	−·0012	+11·7	+ 0·4	−·0012
56	142·9	392·2		50·3		−·0022	−·0015	+ 8·6	+ 0·6	−·0015
16 02	130·3	382·8	65·6	50·1	66·0	−·0029	−·0015	− 0·4	+ 1·2	−·0016
08	124·9	382·4		51·5		−·0029	−·0014	− 4·3	+ 1·3	−·0015
14	126·6	353·7		38·4		−·0050	−·0026	− 3·1	+ 2·0	−·0028
20	101·5	323·3		54·3		−·0072	−·0011	−21·2	+ 5·1	−·0015
26	120·1	357·6		68·5		−·0047	+·0002	− 7·8	+ 4·1	−·0001
32	138·3	398·6		69·5		−·0016	+·0003	+ 5·3	+ 1·6	+·0002
38	141·9	376·1		46·7		−·0033	−·0018	+ 7·9	+ 1·2	−·0019
44	128·4	349·3		54·3		−·0052	−·0012	− 1·8	+ 3·4	−·0015
50	134·3	352·3		55·3		−·0050	−·0011	+ 2·5	+ 3·3	−·0014
56	137·3	356·9		46·6		−·0046	−·0019	+ 4·6	+ 2·3	−·0021
17 02	114·1	187·6	65·6	3·9	65·5	−·0023	−·0058	−12·1	− 3·0	−·0056
08	86·4	123·1		22·8		−·0219	−·0041	−32·1	+15·1	−·0052
14	93·7	152·9		40·3		−·0197	−·0024	−26·7	+14·6	−·0035
20	114·5	205·7		41·8		−·0158	−·0023	−11·8	+11·4	−·0032
26	121·5	299·6		35·0		−·0089	−·0029	− 6·8	+ 5·1	−·0033
32	125·6	272·2		30·0		−·0109	−·0034	− 3·8	+ 6·3	−·0039
38	127·4	306·4		34·8		−·0083	−·0029	− 2·6	+ 4·6	−·0032
44	120·0	342·7		50·4		−·0056	−·0015	− 7·8	+ 3·5	−·0018
50	136·2	350·7		47·6		−·0050	−·0017	+ 3·8	+ 2·8	−·0019
56	143·6	362·9		54·2		−·0041	−·0011	+ 9·1	+ 2·5	−·0013
18 02	151·4	389·6	65·2	55·9	65·7	−·0022	−·0009	+14·8	+ 1·1	−·0010
08	157·2	398·2		58·5		−·0015	−·0007	+19·0	+ 0·7	−·0007
14	161·0	395·1		53·5		−·0018	−·0012	+21·7	+ 0·5	−·0012
20	154·7	395·1		50·3		−·0018	−·0015	+17·3	+ 0·2	−·0015
26	147·1	373·7		49·4		−·0034	−·0016	+11·8	+ 1·5	−·0017
32	150·2	373·2		49·4		−·0034	−·0016	+14·1	+ 1·5	−·0017
38	148·3	354·1		44·2		−·0048	−·0020	+12·7	+ 2·4	−·0022
44	146·2	336·0		44·2		−·0062	−·0020	+11·3	+ 3·6	−·0123
50	147·6	356·1		52·8		−·0047	−·0013	+12·3	+ 2·9	−·0015
56	149·5	351·9		46·5		−·0050	−·0018	+13·8	+ 2·7	−·0020
19 02	141·0	316·6	64·8	32·1	65·5	−·0076	−·0032	+ 7·6	+ 3·7	−·0035
08	134·4	243·7		25·9		−·0130	−·0038	+ 3·0	+ 7·8	−·0044
14	139·9	333·6		24·2		−·0064	−·0039	+ 6·9	+ 2·1	−·0041
20	136·2	335·4		34·2		−·0062	−·0030	+ 4·3	+ 2·7	−·0032
26	148·6	346·9		32·8		−·0054	−·0031	+13·3	+ 1·9	−·0033
32	148·8	389·2		43·8		−·0023	−·0021	+13·5	+ 0·2	−·0021
38	145·9	445·7		52·4		+·0019	−·0013	+11·4	− 2·7	−·0011
44	148·5	422·4		52·2		+·0002	−·0013	+13·4	− 1·3	−·0012
50	151·3	423·1		48·2		+·0003	−·0017	+15·3	− 1·7	−·0016
56	152·1	427·7		54·3		+·0006	−·0012	+15·9	− 1·5	−·0011
20 02	158·9	439·4	64·5	58·8	65·2	+·0015	−·0007	+20·9	− 1·9	−·0006
08	158·8	430·4		58·8		+·0008	−·0007	+20·8	− 1·3	−·0006
14	158·0	434·5		57·3		+·0011	−·0009	+20·2	− 1·7	−·0008
20	152·5	435·2		59·4		+·0011	−·0007	+16·1	− 1·5	−·0006
26	145·9	424·7		58·0		+·0003	−·0009	+11·4	− 1·0	−·0008
32	143·9	419·1		58·3		−·0002	−·0008	+ 9·9	− 0·5	−·0008
38	143·2	418·5		58·3		−·0002	−·0009	+ 9·4	− 0·6	−·0009
44	141·8	414·0		59·9		−·0006	−·0007	+ 8·3	− 0·1	−·0007
50	140·6	416·0		60·4		−·0004	−·0007	+ 7·4	− 0·2	−·0007

1842.
Cape of Good Hope.

June 8—10.

For Mean Monthly Readings, *see* page 68.

CAPE OF GOOD HOPE, 1842. JUNE 8—10.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 2m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen. Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
8 20 02	45·3	104·1	55·6	51·2	56·0	+·0003	−·0001	− 0·8	− 0·7	·0000
08	45·6	104·7		51·7		+·0004	−·0001	− 0·5	− 0·8	+·0001
14	45·2	104·4		52·4		+·0003	·0000	− 0·6	− 0·5	+·0001
20	44·7	104·4		53·0		+·0004	·0000	− 0·8	− 0·7	+·0001
26	44·3	104·6		53·6		+·0004	+·0001	− 1·0	− 0·5	+·0002
32	44·0	104·7		53·2		+·0005	·0000	− 1·1	− 0·8	+·0002
38	43·9	105·0		54·3		+·0005	+·0001	− 1·1	− 0·7	+·0002
44	42·8	105·0		53·7		+·0005	·0000	− 1·7	− 0·8	+·0002
50	43·1	105·3		53·2		+·0006	−·0001	− 1·4	− 1·2	+·0001
56	43·3	105·0		54·3		+·0005	·0000	− 1·1	− 0·8	+·0002
21 02	43·0	105·2	55·6	53·7	56·0	+·0006	−·0001	− 1·1	− 1·2	+·0001
08	42·9	105·4		56·6		+·0006	+·0003	− 1·1	− 0·5	+·0004
14	42·5	104·7		57·3		+·0005	+·0003	− 1·4	− 0·3	+·0004
20	42·3	105·2		55·7		+·00 0	+·0002	− 1·4	− 0·7	+·0003
26	42·2	104·9		54·7		+·0005	+·0001	− 1·4	− 0·7	+·0002
32	42·1	104·7		54·0		+·0005	·0000	− 1·4	− 0·8	+·0002
38	41·6	103·9		53·6		+·0003	·0000	− 1·7	− 0·5	+·0001
44	41·5	104·1		56·8		+·0004	+·0003	− 1·7	− 0·2	+·0003
50	40·6	103·6		56·7		+·0003	+·0003	− 2·3	0·0	+·0003
56	40·5	103·3		56·6		+·0002	+·0003	− 2·2	+ 0·2	+·0003
22 02	40·7	102·7	55·7	57·3	56·0	+·0001	+·0004	− 2·0	+ 0·5	+·0003
08	40·2	102·1		57·1		·0000	+·0004	− 2·4	+ 0·7	+·0003
14	40·3	102·1		56·4		+·0001	+·0003	− 2·3	+ 0·3	+·0004
20	40·7	101·5		55·7		·0000	+·0003	− 2·0	+ 0·5	+·0002
26	41·2	101·1		55·3		−·0001	+·0003	− 1·7	+ 0·7	+·0002
32	41·6	101·0		55·0		·0000	+·0003	− 1·4	+ 0·5	+·0002
38	41·6	101·1		54·0		·0000	+·0002	− 1·4	+ 0·3	+·0001
44	41·5	101·8		53·2		+·0002	+·0001	− 1·5	− 0·2	+·0001
50	41·7	101·8		52·3		+·0002	·0000	− 1·4	− 0·3	+·0001
56	42·1	101·9		51·1		+·0002	−·0001	− 1·1	− 0·5	·0000
23 02	42·5	101·7	56·0	49·3	56·5	+·0002	−·0002	− 0·8	− 0·7	−·0001
06	43·0	—		—		—	—	− 0·5	—	—
9 00 02	45·1	100·5	56·3	46·9	56·6	+·0002	−·0004	+ 0·7	− 1·0	−·0002
10 00 02	46·2	101·6	55·7	46·8	55·8	+·0003	−·0003	+ 1·8	− 1·0	−·0001
01 02	47·4	106·7	55·7	39·4	55·8	+·0013	−·0013	+ 2·2	− 4·3	−·0004
14	—	106·4		43·7		+·0012	−·0007	—	− 3·1	·0000
20	47·6	106·7		44·4		+·0012	−·0006	+ 1·7	− 3·0	·0000
26	47·4	107·0		45·1		+·0013	−·0006	+ 1·5	− 3·1	+·0001
32	47·1	107·4		45·5		+·0014	−·0005	+ 1·2	− 3·1	+·0002
38	47·3	107·1		46·2		+·0013	−·0004	+ 1·3	− 2·8	+·0002
44	47·7	108·0		45·9		+·0015	−·0005	+ 1·6	− 3·3	+·0002
50	47·3	107·3		47·3		+·0014	−·0003	+ 1·2	− 2·8	+·0003
56	47·4	107·7		47·1		+·0014	−·0004	+ 1·3	− 3·0	+·0002
02 02	47·0	109·0	55·8	46·1	56·0	+·0017	−·0005	+ 0·9	− 3·6	+·0003
08	46·7	109·1		46·8		+·0017	−·0004	+ 0·7	− 3·5	+·0003
14	46·7	108·7		48·9		+·0016	−·0004	+ 0·7	− 3·3	+·0003
20	45·6	107·4		49·7		+·0014	−·0001	− 0·2	− 2·5	+·0004
26	46·5	107·5		49·7		+·0014	−·0001	+ 0·5	− 2·5	+·0004
32	46·2	106·4		50·5		+·0012	−·0001	+ 0·3	− 2·1	+·0004
38	46·8	106·6		50·1		+·0012	−·0001	+ 0·8	− 2·1	+·0004
44	46·1	106·7		51·0		+·0012	−·0001	+ 0·2	− 2·1	+·0004
50	46·2	106·0		51·6		+·0011	·0000	+ 0·3	− 1·8	+·0004
56	46·3	106·0		51·6		+·0011	·0000	+ 0·4	− 1·8	+·0004
03 02	46·5	106·3	56·1	51·4	56·1	+·0012	−·0001	+ 0·5	− 2·1	+·0004
08	46·0	106·9		51·7		+·0012	·0000	+ 0·2	− 2·0	+·0004
14	46·2	107·3		51·9		+·0013	·0000	+ 0·4	− 2·1	+·0005
20	46·2	106·6		52·6		+·0012	+·0001	+ 0·5	− 1·8	+·0005
26	46·0	107·0		53·2		+·0012	+·0001	+ 0·3	− 1·8	+·0005
32	45·5	106·6		53·8		+·0011	+·0002	0·0	− 1·5	+·0005

1842.
Cape of Good Hope.

June 10.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 2m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours. $\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
10 03 38	44·5	104·7		55·6		+·0008	+·0004	− 0·7	− 0·7	+·0005
44	44·7	104·0		55·0		+·0007	+·0003	− 0·5	− 0·7	+·0004
50	44·5	103·1		57·5		+·0005	+·0006	− 0·6	+ 0·2	+·0006
56	45·1	105·5		55·0		+·0009	+·0003	− 0·2	− 1·0	+·0005
04 02	45·2	106·1	56·6	55·0	56·4	+·0010	+·0003	0·0	− 1·2	+·0005
08	44·6	105·0		55·3		+·0008	+·0003	− 0·4	− 0·8	+·0005
14	44·3	105·4		55·2		+·0009	+·0003	− 0·6	− 1·0	+·0005
20	44·2	105·1		55·1		+·0009	+·0003	− 0·6	− 1·0	+·0005
26	44·2	104·9		55·1		+·0008	+·0003	− 0·6	− 0·8	+·0005
32	44·4	105·0		54·7		+·0009	+·0002	− 0·4	− 1·2	+·0004
38	44·2	105·0		54·5		+·0009	+·0002	− 0·5	− 1·2	+·0004
44	44·0	105·5		54·1		+·0010	+·0001	− 0·6	− 1·5	+·0004
50	44·0	104·5		55·4		+·0008	+·0003	− 0·6	− 0·8	+·0005
56	43·3	103·2		56·4		+·0006	+·0004	− 1·1	− 0·3	+·0005
05 02	43·4	103·0	56·7	56·9	56·5	+·0005	+·0004	− 1·0	− 0·2	+·0004
08	43·6	102·3		57·4		+·0005	+·0005	− 0·8	0·0	+·0005
14	43·1	101·7		58·6		+·0003	+·0006	− 1·2	+ 0·5	+·0005
20	43·0	100·8		58·9		+·0002	+·0007	− 1·3	+ 0·8	+·0005
26	43·2	100·3		59·0		+·0001	+·0007	− 1·1	+ 1·0	+·0005
32	43·5	100·0		58·8		+·0001	+·0007	− 0·9	+ 1·0	+·0005
38	43·7	99·9		58·9		+·0001	+·0007	− 0·8	+ 1·0	+·0005
44	43·8	99·2		58·9		·0000	+·0007	− 0·7	+ 1·2	+·0005
50	43·7	98·9		59·2		·0000	+·0007	− 0·8	+ 1·2	+·0005
56	43·5	98·9		59·0		·0000	+·0007	− 0·9	+ 1·2	+·0005
06 02	43·9	99·0	57·0	54·0	56·9	·0000	+·0002	− 0·6	+ 0·3	+·0001

1842.
St. Helena.

June 10.

For Mean Monthly Readings, *see* page 69.

ST. HELENA, 1842.. JUNE 10.

10 00 02	24·2	77·2	61·1	7·2	61·0	+·0009	−·0006	+ 0·7	− 1·8	+·0007
26	25·8	83·2		7·6		+·0021	−·0003	+ 1·9	− 2·8	+·0018
32	26·0	83·6		7·6		+·0022	−·0003	+ 2·0	− 2·8	+·0019
38	26·0	82·8		7·3		+·0020	−·0005	+ 2·0	− 2·8	+·0017
44	26·0	83·5		7·5		+·0022	−·0004	+ 2·0	− 3·1	+·0018
50	26·2	83·7		7·6		+·0022	−·0004	+ 2·2	− 3·1	+·0018
56	26·1	82·6		7·6		+·0020	−·0004	+ 2·2	− 2·8	+·0017
01 02	26·1	81·6	61·2	6·9	61·1	+·0018	−·0008	+ 2·2	− 3·1	+·0014
08	26·1	82·0		6·9		+·0019	−·0008	+ 2·2	− 3·2	+·0015
14	26·0	80·3		6·9		+·0016	−·0008	+ 2·1	− 2·8	+·0013
20	25·8	80·2		6·9		+·0016	−·0008	+ 2·0	− 2·8	+·0013
26	25·8	80·1		7·0		+·0016	−·0007	+ 2·0	− 2·7	+·0013
32	25·8	80·3		6·6		+·0017	−·0010	+ 2·0	− 3·2	+·0013
38	26·0	80·0		7·2		+·0017	−·0007	+ 2·2	− 2·8	+·0014
44	26·4	80·3		7·2		+·0018	−·0007	+ 2·5	− 2·8	+·0015
50	26·0	79·2		6·2		+·0016	−·0013	+ 2·2	− 3·4	+·0012
56	25·8	79·9		7·1		+·0017	−·0007	+ 2·0	− 2·8	+·0014
02 02	25·9	80·8	61·6	7·7	61·2	+·0019	−·0004	+ 2·1	− 2·7	+·0016
08	25·9	80·2		7·7		+·0018	−·0004	+ 2·1	− 2·6	+·0015
14	26·0	79·0		6·5		+·0017	−·0011	+ 2·2	− 3·3	+·0013
20	25·1	77·9		7·2		+·0015	−·0007	+ 1·5	− 2·6	+·0012
26	25·9	77·1		7·8		+·0014	−·0003	+ 2·1	− 2·0	+·0012
32	25·5	76·1		7·8		+·0012	−·0004	+ 1·8	− 1·9	+·0010
38	25·3	76·0		6·7		+·0012	−·0010	+ 1·6	− 2·6	+·0009
44	25·1	75·9		6·7		+·0012	−·0010	+ 1·5	− 2·6	+·0009
50	24·9	75·0		6·7		+·0011	−·0010	+ 1·3	− 2·5	+·0008
56	24·9	74·9		6·8		+·0011	−·0010	+ 1·3	− 2·5	+·0008
03 02	24·9	75·0	62·0	6·8	61·1	+·0012	−·0010	+ 1·3	− 2·6	+·0009
08	24·9	75·6		7·1		+·0013	−·0008	+ 1·3	− 2·5	+·0010
14	24·9	75·9		7·1		+·0014	−·0008	+ 1·3	− 2·6	+·0011

1842. St. Helena.

June 10—12.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 2m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
10 03 20	24·8	75·0		7·1		+·0012	−·0008	+ 1·2	− 2·4	+·0009
26	24·5	75·0		7·1		+·0012	−·0008	+ 1·0	− 2·4	+·0009
32	24·2	74·4		7·1		+·0011	−·0008	+ 0·8	− 2·1	+·0009
38	23·8	72·0		7·0		+·0007	−·0008	+ 0·5	− 1·8	+·0005
44	23·9	70·9		7·1		+·0005	−·0008	+ 0·6	− 1·4	+·0003
50	23·8	69·9		7·1		+ 0003	−·0008	+ 0·4	− 1·3	+·0002
56	24·0	72·1		7·1		+·0007	−·0008	+ 0·6	− 1·8	+·0005
04 02	24·0	73·4	62·1	7·4	62·0	+·0010	−·0006	+ 0·6	− 1·9	+·0008
08	23·9	72·1		7·4		+·0008	−·0006	+ 0·6	− 1·7	+·0006
14	23·9	72·4		7·4		+·0009	−·0006	+ 0·6	− 1·8	+·0007
20	23·9	72·1		7·4		+·0009	−·0006	+ 0·6	− 1·8	+·0007
26	23·9	72·0		7·4		+·0009	−·0006	+ 0·6	− 1·8	+·0007
32	23·5	72·0		7·4		+·0009	−·0007	+ 0·4	− 1·9	+·0007
38	23·4	72·0		7·4		+·0009	−·0007	+ 0·4	− 1·9	+·0007
44	23·1	72·9		7·4		+·0011	−·0007	+ 0·2	− 2·1	+·0009
50	23·1	72·0		7·0		+·0010	−·0009	+ 0·3	− 2·1	+·0008
56	22·9	70·5		6·9		+·0007	−·0010	+ 0·1	− 2·0	+·0005
05 02	22·8	69·8	62·4	6·9	62·0	+·0006	−·0010	+ 0·1	− 1·9	+·0004
08	22·2	69·0		6·9		+·0005	−·0010	− 0·2	− 1·8	+·0003
14	22·0	68·1		7·1		+·0003	−·0008	− 0·4	− 1·3	+·0002
20	21·9	67·0		7·1		+·0001	−·0008	− 0·4	− 0·9	·0000
26	21·9	66·8		7·1		+·0001	−·0008	− 0·4	− 0·9	·0000
32	21·9	66·1		7·1		·0000	−·0008	− 0·3	− 0·9	−·0001
38	21·9	66·1		7·2		·0000	−·0008	− 0·3	− 0·9	−·0001
44	21·9	65·9		7·2		·0000	−·0008	− 0·2	− 0·9	−·0001
50	21·9	65·3		7·2		−·0001	−·0008	− 0·2	− 0·8	−·0002
56	21·9	65·2		7·2		−·0001	−·0008	− 0·1	− 0·8	−·0002
06 02	21·4	65·9	62·3	7·2	62·0	·0000	−·0008	− 0·5	− 0·9	−·0001
08	21·7	66·6		7·2		+·0002	−·0008	− 0·3	− 1·2	+·0001
14	21·3	66·0		7·3		+·0001	−·0007	− 0·6	− 0·9	·0000
20	21·0	64·9		7·3		−·0001	−·0007	− 0·8	− 0·7	−·0002
26	20·9	64·5		7·3		−·0001	−·0007	− 0·8	− 0·7	−·0002
32	21·1	64·0		6·8		−·0002	−·0010	− 0·8	− 0·9	−·0003
38	21·7	63·7		6·9		−·0003	−·0009	− 0·4	− 0·7	−·0004
44	21·8	63·1		7·0		−·0003	−·0008	− 0·3	− 0·6	−·0004
50	21·8	63·0		7·2		−·0003	−·0007	− 0·3	− 0·5	−·0004
56	21·8	63·0		6·9		−·0003	−·0009	− 0·3	− 0·7	−·0004
07 02	21·8	63·0	62·2	6·9	62·0	−·0003	−·0009	− 0·3	− 0·7	−·0004
08 02	21·6	61·9	62·0	(a) 7·5	62·0	−·0003	−·0005	− 0·4	− 0·2	−·0003
32	22·5	61·9		(a) 6·2		−·0003	−·0012	− 0·1	− 0·9	−·0004
09 02	22·0	61·9	62·0	(a) 6·4	61·8	−·0003	−·0011	− 0·4	− 0·9	−·0004
32	22·6	61·2		(a) 6·4		−·0004	−·0010	− 0·1	− 0·7	−·0005
10 02	22·9	61·8	61·9	(a) 6·4	61·6	−·0003	−·0010	− 0·1	− 0·8	−·0004
32	23·1	62·1		(a) 6·6		−·0001	−·0008	0·0	− 0·8	−·0002
11 02	23·2	62·9	62·8	(a) 6·6	61·5	+·0002	−·0008	0·0	− 1·2	+·0001
32	23·3	63·0		(a) 6·0		+·0001	−·0011	− 0·1	− 1·4	−·0001
12 02	23·6	63·0	61·7	(a) 5·2	61·4	+ 0001	−·0016	0·0	− 2·0	−·0001

1842. Cape of Good Hope.

June 13.

For Mean Monthly Readings, *see* page 68.

CAPE OF GOOD HOPE, 1842. JUNE 13.

13 01 02	47·2	101·2	56·0	48·3	56·2	+·0004	−·0002	+ 1·5	− 1·0	·0000
50	—	97·2		54·5		−·0003	+·0005	—	+ 1·3	+.0002
56	46·1	96·7		55·0		−·0003	+·0005	+ 0·3	+ 1·3	+·0002
02 02	46·2	96·0	56·7	55·6	56·7	−·0004	+·0006	+ 0·3	+ 1·7	+·0002
08	46·5	96·2		55·6		−·0004	+·0006	+ 0·5	+ 1·7	+·0002
14	46·8	96·7		54·9		−·0003	+·0005	+ 0·8	+ 1·3	+·0002
20	47·1	96·9		54·6		−·0003	+·0004	+ 1·0	+ 1·2	+·0002
26	47·0	96·4		55·0		−·0003	+·0005	+ 0·9	+ 1·3	+·0002
32	47·2	95·5		55·6		−·0005	+·0005	+ 1·1	+ 1·7	+·0001
38	47·1	94·1		57·8		−·0008	+·0008	+ 1·0	+ 2·6	+·0002

(a) Observed 4m. before the times specified.

1842.
Cape of Good Hope.

June 13.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 2m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
13 02 44	47·0	93·3		58·7		−·0009	+·0008	+ 0·9	+ 2·8	+·0002
50	46·8	93·6		59·8		−·0009	+·0009	+ 0·8	+ 3·0	+·0003
56	46·1	92·9		61·5		−·0010	+·0011	+ 0·2	+ 3·5	+·0004
03 02	45·8	93·5	57·1	61·6	57·0	−·0009	+·0011	0·0	+ 3·3	+·0004
08	45·5	93·6		61·3		−·0009	+·0011	− 0·2	+ 3·3	+·0004
14	45·2	94·8		59·3		−·0007	+·0008	− 0·4	+ 2·5	+·0003
20	46·0	95·6		57·9		−·0005	+·0007	+ 0·3	+ 2·0	+·0003
26	46·0	96·1		57·1		−·0005	+·0006	+ 0·3	+ 1·8	+·0002
32	46·0	96·1		56·9		−·0005	+·0006	+ 0·4	+ 1·8	+·0002
38	45·7	96·5		56·7		−·0004	+·0005	+ 0·2	+ 1·5	+·0002
44	45·4	96·6		56·7		−·0004	+·0005	0·0	+ 1·5	+·0002
50	45·2	97·2		56·4		−·0003	+·0005	− 0·1	+ 1·3	+·0002
56	45·2	97·8		55·2		−·0003	+·0004	− 0·1	+ 1·2	+·0002
04 02	45·6	98·0	57·5	54·6	57·5	−·0002	+·0003	+ 0·3	+ 0·8	+·0001
08	45·8	98·1		53·9		−·0002	+·0002	+ 0·5	+ 0·7	+·0001
14	46·0	98·0		53·1		−·0002	+·0001	+ 0·7	+ 0·5	·0000
20	46·0	97·9		53·7		−·0002	+·0002	+ 0·8	+ 0·7	+·0001
26	45·8	97·8		53·7		−·0002	+·0002	+ 0·6	+ 0·7	+·0001
32	45·8	98·0		53·3		−·0001	+·0001	+ 0·7	+ 0·3	·0000
38	45·9	97·8		53·3		−·0001	+·0001	+ 0·8	+ 0·3	·0000
44	45·9	97·6		54·0		−·0001	+·0002	+ 0·8	+ 0·5	+·0001
50	45·0	97·6		54·3		−·0001	+·0002	+ 0·2	+ 0·5	+·0001
56	45·0	97·6		54·3		−·0001	+·0002	+ 0·2	+ 0·5	+·0001
05 02	45·0	97·8	57·8	54·3	57·8	−·0001	+·0002	+ 0·2	+ 0·5	+·0001

1842.
Van Diemen Island.

June 19.

VAN DIEMEN ISLAND, 1842. JUNE 19.

MEAN MONTHLY READINGS OF THE MAGNETOMETERS.

Mean Göttingen Time.	Declination.	H. F. at 49°·3.	V. F. at 48°·5.	Mean Göttingen Time.	Declination.	H. F. at 49°·3.	V. F. at 48°·5.
Hours.	Sc. Div.	Sc. Div.	Sc. Div.	Hours.	Sc. Div.	Sc. Div.	Sc. Div.
00	70·8	78·7	69·2	12	71·7	79·0	59·7
01	70·2	79·0	67·2	13	71·3	77·7	60·9
02	69·9	78·4	66·2	14	71·1	76·1	63·7
03	70·7	77·7	63·9	15	72·2	74·7	63·8
04	71·4	77·7	69·0	16	74·2	75·5	70·2
05	72·3	77·6	67·0	17	75·5	75·5	72·8
06	73·1	78·1	66·5	18	75·5	76·0	73·7
07	72·8	77·9	62·8	19	74·3	77·2	71·5
08	72·9	78·8	62·8	20	72·5	78·3	67·2
09	72·5	79·0	61·1	21	72·4	78·7	66·8
10	72·5	79·3	60·8	22	72·1	78·9	68·0
11	72·7	79·1	61·1	23	71·3	78·3	69·1

Coefficients (A), Approximate Absolute Values (B.)

(A)
- Declin. $a = 0'·71$
- H. F. $k = ·000120$, $q = ·000234$
- V. F. $k = ·000038$, $q = ·00021$

(B) Approx.
- $\psi = -9°\,55'$
- X = 4·51
- Y = 12·86
- $\theta = -70°\,37'$
- ϕ = 13·62

OBSERVATIONS OF THE MAGNETOMERS.

The Declination was observed 2m. before, and the V. F. 2m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
19 07 02	62·1	63·4	57·5	14·9	58·3	+·0002	+·0002	− 7·6	0·0	+·0002
12	60·4	62·0		14·2		·0000	+·0003	− 8·8	+ 0·3	+·0003
18	59·4	62·0		15·4		·0000	+·0004	− 9·5	+ 0·4	+·0004
24	60·2	63·5		14·6		+·0001	+·0004	− 8·9	+ 0·3	+·0004
30	59·8	66·4		11·6		+·0005	+·0003	− 9·3	− 0·2	+·0003
36	59·1	68·3		17·5		+·0007	+·0006	− 9·8	− 0·1	+·0006

1842.
Van Diemen Island.

June 19.

OBSERVATIONS OF THE MAGNETOMETERS. The Declination was observed 2m. before, and the V. F. 2m. after the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M. S.	Sc. Div.	Sc. Div.	Therm. ° ′	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
19 07 42	59·1	68·8		4·5		+·0008	+·0001	− 9·8	− 0·8	+·0002
48	59·2	69·2		4·5		+·0008	+·0001	− 9·7	− 0·8	+·0002
54	62·2	69·5		5·6		+·0008	+·0002	− 7·6	− 0·7	+·0003
08 02	65·8	70·7	57·5	7·8	60·0	+·0010	+·0003	− 5·1	− 0·8	+·0004
08	69·5	71·8		11·6		+·0011	+·0005	− 2·4	− 0·7	+·0006
14	72·0	73·3		8·9		+·0013	+·0004	− 0·6	− 1·0	+·0005
20	75·6	74·6		10·7		+·0014	+·0005	+ 2·0	− 1·0	+·0006
26	75·9	76·3		3·0		+·0016	+·0002	+ 2·2	− 1·5	+·0003
32	70·6	75·5		− 0·7 (a)		+·0015	+·0001	− 1·5	− 1·5	+·0002
38	68·2	75·4		− 0·9 (a)		+·0015	+·0001	− 3·2	− 1·5	+·0002
44	67·8	73·1		0·4		+·0012	+·0001	− 3·4	− 1·2	+·0002
50	66·9	70·5		3·2		+·0009	+·0002	− 4·1	− 0·8	+·0003
09 02	71·2	70·3	57·5	9·5	59·9	+·0009	+·0004	− 0·9	− 0·6	+·0005
08	73·8	72·4		11·1		+·0011	+·0005	+ 0·9	− 0·7	+·0006
14	73·3	70·8		8·8		+·0009	+·0004	+ 0·6	− 0·4	+·0005
20	73·2	69·4		10·6		+·0008	+·0005	+ 0·5	− 0·3	+·0005
26	72·8	70·4		11·4		+·0009	+·0005	+ 0·2	− 0·4	+·0005
32	74·0	67·9		12·3		+·0006	+·0005	+ 1·1	− 0·1	+·0005
38	74·6	68·0		11·2		+·0006	+·0005	+ 1·5	− 0·1	+·0005
44	72·7	65·3		11·1		+·0003	+·0005	+ 0·1	+ 0·2	+·0005
50	72·0	62·1		11·1		−·0001	+·0005	− 0·4	+ 0·7	+·0004
10 02	67·5	59·2	57·5	11·9	59·8	−·0005	+·0005	− 3·6	+ 1·1	+·0004
14	67·6	57·8		19·0		−·0007	+·0007	− 3·4	+ 1·5	+·0006
20	68·5	56·2		20·7		−·0009	+·0008	− 2·9	+ 1·8	+·0006
26	70·2	55·5		23·0		−·0010	+·0008	− 1·7	+ 1·9	+·0006
32	72·4	55·9		24·8		−·0009	+·0008	− 0·1	+ 1·8	+·0006
38	73·7	56·1		24·0		−·0009	+·0008	+ 0·8	+ 1·8	+·0006
44	73·6	56·4		24·0		−·0009	+·0008	+ 0·7	+ 1·8	+·0006
50	73·8	55·5		24·9		−·0010	+·0008	+ 0·8	+ 1·9	+·0006
11 02	75·7	54·4	57·3	25·6	58·3	−·0011	+·0007	+ 2·1	+ 1·9	+·0005

1842.
Cape of Good Hope.

June 19.

For Mean Monthly Readings, *see* page 68.

CAPE OF GOOD HOPE, 1842. JUNE 19.										
19 19 02	44·2	90·1	59·9	45·2	60·0	−·0009	−·0003	− 0·2	+ 1·0	−·0005
36	—	91·0		45·2		−·0008	−·0005	—	+ 0·5	−·0006
44	45·0	91·6		45·5		−·0007	−·0005	− 0·3	+ 0·3	−·0006
50	45·0	91·8		45·1		−·0007	−·0005	− 0·8	+ 0·3	−·0006
56	45·0	92·0		45·3		−·0007	−·0005	− 0·9	+ 0·3	−·0006
20 02	45·1	92·2	59·8	45·2	60·0	−·0007	−·0006	− 1·0	+ 0·2	−·0006
08	45·1	92·3		45·9		−·0007	−·0005	− 0·8	+ 0·3	−·0006
14	45·0	92·5		46·0		−·0006	−·0005	− 0·8	+ 0·2	−·0005
20	44·9	92·5		46·1		−·0006	−·0006	− 0·7	0·0	−·0006
26	44·9	92·7		46·5		−·0006	−·0005	− 0·5	+ 0·2	−·0005
32	44·8	92·9		46·9		−·0005	−·0005	− 0·5	0·0	−·0005
38	44·3	93·2		47·4		−·0005	−·0005	− 0·8	0·0	−·0005
44	44·2	93·7		47·7		−·0003	−·0005	− 0·7	− 0·3	−·0004
50	44·2	93·4		47·8		−·0004	−·0005	− 0·5	− 0·2	−·0005
56	44·1	93·6		48·4		−·0004	−·0004	− 0·5	0·0	−·0004
21 02	44·0	93·8	59·7	48·6	60·0	−·0003	−·0004	− 0·4	− 0·2	−·0004
08	44·0	93·8		48·6		−·0003	−·0004	− 0·3	− 0·2	−·0004
14	44·0	94·0		48·6		−·0003	−·0004	− 0·2	− 0·2	−·0004
20	43·6	94·0		48·9		−·0003	−·0004	− 0·5	− 0·2	−·0004
26	43·5	94·0		49·1		−·0003	−·0004	− 0·5	− 0·2	−·0004
32	43·3	94·0		49·1		−·0003	−·0003	− 0·5	0·0	−·0003
38	43·0	94·2		49·1		−·0002	−·0003	− 0·6	− 0·2	−·0003
44	43·0	94·2		48·6		−·0003	−·0004	− 0·5	− 0·2	−·0004
50	42·9	94·0		48·6		−·0003	−·0004	− 0·5	− 0·2	−·0004
56	42·7	94·0		48·5		−·0003	−·0004	− 0·6	− 0·2	−·0004
22 02	42·9	94·0	59·9	47·7	60·1	−·0003	−·0005	− 0·4	− 0·3	−·0004
08	42·7	—		—		—	—	− 0·6	—	—
23 02	42·4	92·3	60·0	46·9	60·2	−·0004	−·0003	− 1·5	+ 0·2	−·0003

(a) the—sign is here properly prefixed.

For Mean Monthly Readings, *see* page 71.

TORONTO, 1842. JUNE 22.

OBSERVATIONS OF THE MAGNETOMETERS.

The H. F. was observed 2m., and the V. F. 4m. after the times specified.

Mean Gottingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
						$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta \psi$	$\Delta \theta$	$\frac{\Delta \phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
22 10 00	120·3	448·6	65·4	66·2	64·3	+·0012	−·0005	− 3·0	− 1·4	−·0004
06	120·7	450·0		66·2		+·0013	−·0005	− 2·8	− 1·5	−·0004
12	120·6	456·1		66·7		+·0018	−·0004	− 3·0	− 1·9	−·0003
18	120·7	456·6		66·7		+·0018	−·0004	− 3·1	− 1·9	−·0003
24	120·5	458·0		66·2		+·0020	−·0005	− 3·4	− 2·1	−·0003
30	120·9	460·3		66·2		+·0022	−·0005	− 3·3	− 2·3	−·0003
36	121·1	459·2		66·2		+·0021	−·0005	− 3·2	− 2·2	−·0003
42	121·2	462·4		65·9		+·0024	−·0005	− 3·3	− 2·5	−·0003
48	121·9	453·4		65·1		+·0018	−·0006	− 2·9	− 2·0	−·0004
54	121·2	449·9		65·9		+·0015	−·0005	− 3·5	− 1·7	−·0004
11 00	122·0	444·8	66·0	64·7	64·8	+·0012	−·0006	− 3·1	− 1·5	−·0005
06	122·0	442·4		65·2		+·0010	−·0006	− 3·3	− 1·4	−·0005
12	122·5	445·0		65·2		+·0013	−·0006	− 3·0	− 1·6	−·0005
18	122·4	446·2		65·6		+·0014	−·0005	− 3·3	− 1·6	−·0004
24	122·8	445·9		65·6		+·0014	−·0005	− 3·1	− 1·6	−·0004
30	123·0	448·6		65·6		+·0016	−·0005	− 3·1	− 1·8	−·0004
36	123·1	449·6		67·0		+·0017	−·0004	− 3·1	− 1·8	−·0003
42	123·3	466·8		66·5		+·0030	−·0004	− 3·1	− 2·9	−·0002
48	123·1	455·0		65·6		+·0022	−·0005	− 3·4	− 2·3	−·0003
54	123·0	449·9		64·6		+·0018	−·0006	− 3·6	− 2·0	−·0004
12 00	123·6	440·6	66·5	65·3	65·3	+·0012	−·0005	− 3·3	− 1·4	−·0004
06	124·7	445·7		64·9		+·0016	−·0006	− 2·6	− 1·9	−·0005
12	124·8	443·3		64·9		+·0014	−·0006	− 2·6	− 1·7	−·0005
18	126·0	447·7		65·9		+·0017	−·0005	− 1·8	− 1·9	−·0004
24	126·0	447·7		65·2		+·0017	−·0005	− 1·8	− 1·9	−·0004
30	127·0	446·7		65·6		+·0017	−·0005	− 1·2	− 1·9	−·0004
36	127·8	446·5		65·6		+·0017	−·0005	− 0·7	− 1·9	−·0004
42	128·6	450·6		66·2		+·0020	−·0004	− 0·2	− 2·0	−·0002
48	131·9	455·9		66·9		+·0024	−·0004	+ 2·0	− 2·4	−·0002
54	133·8	462·6		68·0		+·0029	−·0002	+ 3·4	− 2·6	·0000
13 00	135·0	471·2	66·5	68·4	65·5	+·0036	−·0002	+ 4·2	− 3·2	·0000
06	133·9	458·9		66·5		+·0027	−·0004	+ 3·3	− 2·6	−·0002
12	129·4	450·8		66·1		+·0021	−·0004	0·0	− 2·1	−·0002
18	127·9	—		—		—	—	− 1·1	—	—
24	—	443·4		64·2		+·0016	−·0006	—	− 1·9	−·0005
30	125·6	445·9		65·7		+·0018	−·0004	− 3·0	− 1·9	−·0003
36	125·3	442·5		65·1		+·0015	−·0005	− 3·2	− 1·7	−·0004
42	126·1	449·8		66·7		+·0021	−·0003	− 2·7	− 2·0	−·0001
48	128·5	454·0		66·1		+·0024	−·0003	− 1·0	− 2·3	−·0001
54	128·6	456·7		66·4		+·0026	−·0003	− 1·0	− 2·5	−·0001
14 00	128·2	452·8	66·6	66·5	66·3	+·0024	−·0003	− 1·3	− 2·3	−·0001
06	129·5	445·9		65·4		+·0019	−·0004	− 0·4	− 1·9	−·0002
12	128·2	438·2		65·3		+·0013	−·0004	− 1·4	− 1·4	−·0003
18	126·0	432·5		66·3		+·0009	−·0002	− 3·0	− 0·9	−·0001
24	126·8	438·3		66·3		+·0014	−·0002	− 2·6	− 1·4	−·0001
30	127·7	442·5		67·0		+·0017	−·0002	− 1·8	− 1·6	−·0001
36	127·6	432·8		66·0		+·0010	−·0002	− 1·9	− 1·0	−·0001
42	135·3	431·8		66·4		+·0009	−·0002	+ 3·5	− 0·9	−·0001
48	150·7	427·8		65·5		+·0006	−·0002	+14·6	− 0·7	−·0002
54	158·1	421·6		63·3		+·0002	−·0005	+19·8	− 0·6	−·0005
15 00	163·1	426·9	66·6	62·2	66·3	+·0006	−·0005	+23·4	− 0·9	−·0004
06	164·7	428·4		59·6		+·0007	−·0007	+24·6	− 1·2	−·0006
12	162·4	419·7		57·8		+·0001	−·0009	+22·9	− 0·9	−·0008
18	157·2	412·1		59·9		−·0005	−·0007	+19·1	− 0·2	−·0007
24	153·6	420·5		60·2		+·0002	−·0006	+16·5	− 0·7	−·0006
30	147·8	421·8		61·8		+·0003	−·0005	+12·3	− 0·7	−·0005
36	146·0	426·0		60·5		+·0006	−·0006	+11·0	− 1·0	−·0005
42	143·3	429·6		59·6		+·0009	−·0006	+ 9·1	− 1·3	−·0005
48	141·9	439·3		57·8		+·0017	−·0008	+ 8·0	− 2·1	−·0006
54	137·3	437·7		56·8		+·0016	−·0009	+ 4·6	− 2·1	−·0007

1842.
Toronto.

June 22.

OBSERVATIONS OF THE MAGNETOMETERS. The H. F. was observed 2m., and the V. F. 4m. after the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
22 16 00	135·7	427·5	66·8	56·4	66·7	+·0008	−·0009	+ 3·5	− 1·4	−·0008
06	135·5	421·3		56·0		+·0004	−·0009	+ 3·3	− 1·1	−·0008
12	138·3	422·8		57·9		+·0005	−·0007	+ 5·3	− 1·0	−·0006
18	138·3	419·1		62·1		+·0002	−·0003	+ 5·2	− 0·4	−·0003
24	136·8	413·4		61·5		−·0002	−·0004	+ 4·2	− 0·2	−·0004
30	138·3	403·2		61·6		−·0009	−·0004	+ 5·2	+ 0·4	−·0004
36	141·8	401·8		63·7		−·0010	−·0001	+ 7·8	+ 0·8	−·0002
42	144·0	407·6		61·3		−·0006	−·0004	+ 9·4	+ 0·2	−·0004
48	143·4	407·1		61·3		−·0006	−·0004	+ 8·9	+ 0·2	−·0004
54	141·4	411·6		60·6		−·0003	−·0004	+ 7·4	− 0·1	−·0004
17 00	139·0	411·5	66·7	61·2	66·7	−·0002	−·0004	+ 5·6	− 0·2	−·0004
06	136·8	413·8		61·8		−·0001	−·0003	+ 4·1	− 0·2	−·0003
12	135·9	427·2		58·5		+·0010	−·0006	+ 3·5	− 1·4	−·0005
18	148·5	430·4		52·9		+·0012	−·0011	+12·4	− 1·9	−·0009
24	145·5	429·4		51·9		+·0011	−·0012	+10·3	− 1·9	−·0010
30	140·3	427·5		53·8		+·0010	−·0010	+ 6·6	− 1·7	−·0009
36	139·8	423·5		56·1		+·0007	−·0008	+ 6·2	− 1·3	−·0007
42	142·4	421·2		58·7		+·0006	−·0006	+ 8·0	− 1·0	−·0005
48	146·5	419·6		58·7		+·0005	−·0006	+10·9	− 0·9	−·0005
54	155·3	425·9		55·4		+·0010	−·0009	+17·3	− 1·6	−·0008
18 00	155·3	430·8	66·7	51·6	66·5	+·0013	−·0012	+17·3	− 2·1	−·0010
06	150·3	430·3		47·6		+·0013	−·0016	+13·8	− 2·5	−·0014
12	144·1	431·5		46·9		+·0014	−·0017	+ 9·3	− 2·6	−·0015
18	140·5	431·6		48·3		+·0014	−·0016	+ 6·8	− 2·5	−·0014
24	140·3	432·0		48·9		+·0014	−·0015	+ 6·7	− 2·5	−·0013
30	137·1	429·4		48·9		+·0012	−·0015	+ 4·4	− 2·3	−·0013
36	133·9	426·0		48·0		+·0010	−·0016	+ 2·2	− 2·2	−·0014
42	130·0	424·5		48·0		+·0009	−·0016	− 0·6	− 2·1	−·0014
48	127·6	419·1		48·0		+·0005	−·0016	− 2·3	− 1·8	−·0015
54	127·3	415·4		48·6		+·0002	−·0016	− 2·5	− 1·5	−·0015
19 00	127·1	415·9	66·5	48·8	66·3	+·0002	−·0015	− 2·6	− 1·4	−·0014
06	125·5	413·3		48·7		·0000	−·0015	− 3·6	− 1·3	−·0013
12	124·0	400·9		49·9		−·0009	−·0014	− 4·7	− 0·4	−·0014
18	126·2	395·3		50·6		−·0013	−·0014	− 3·0	− 0·1	−·0014
24	130·1	400·1		53·7		−·0010	−·0011	− 0·1	− 0·1	−·0011
30	133·6	401·3		55·5		−·0009	−·0009	+ 2·5	0·0	−·0009
36	135·8	409·3		56·4		−·0003	−·0008	+ 4·0	− 0·4	−·0008
42	136·6	416·8		57·3		+·0002	−·0008	+ 4·7	− 0·9	−·0007
48	136·9	425·2		57·0		+·0009	−·0008	+ 4·9	− 1·4	−·0007
54	133·1	428·7		55·8		+·0011	−·0009	+ 2·3	− 1·7	−·0008
20 00	131·0	425·4	66·0	54·9	66·2	+·0008	−·0010	+ 0·8	− 1·5	−·0009
06	131·0	427·7		54·4		+·0010	−·0010	+ 0·7	− 1·7	−·0009
12	130·3	425·2		53·1		+·0008	−·0012	+ 0·2	− 1·7	−·0011
18	132·9	426·9		52·1		+·0009	−·0013	+ 2·0	− 1·9	−·0012
24	133·9	423·0		50·3		+·0006	−·0015	+ 2·8	− 1·8	−·0014
30	135·2	416·3		49·2		+·0001	−·0016	+ 3·6	− 1·4	−·0015
36	135·4	404·1		46·1		−·0008	−·0019	+ 3·7	− 0·9	−·0018
42	126·1	383·2		43·6		−·0024	−·0021	− 3·0	+ 0·2	−·0021
48	114·7	384·5		44·5		−·0023	−·0020	−11·2	+ 0·2	−·0020
54	115·0	403·0		44·4		−·0010	−·0021	−11·1	− 0·9	−·0020
21 00	114·6	414·6	65·7	44·4	65·9	−·0001	−·0021	−11·4	− 1·7	−·0020
06	114·9	415·8		44·2		·0000	−·0021	−11·2	− 1·8	−·0020
12	114·2	419·0		45·9		+·0002	−·0019	−11·7	− 1·8	−·0018
18	115·0	416·4		46·9		·0000	−·0019	−11·2	− 1·6	−·0018
24	115·4	416·1		49·2		·0000	−·0016	−10·9	− 1·4	−·0015
30	115·0	415·3		51·1		−·0001	−·0015	−11·2	− 1·2	−·0014
56	115·5	417·3		51·1		·0000	−·0015	−10·9	− 1·3	−·0014
42	116·1	415·0		51·5		−·0002	−·0014	−10·5	− 1·0	−·0013
48	120·4	418·6		53·5		+·0001	−·0013	− 7·4	− 1·2	−·0012
54	121·0	422·5		55·1		+·0004	−·0011	− 7·1	− 1·3	−·0010
22 00	122·0	424·3	65·5	56·2	65·7	+·0005	−·0010	− 6·4	− 1·3	−·0009
06	123·9	427·5		58·0		+·0007	−·0009	− 5·1	− 1·4	−·0008

1842.
Toronto.

June 22–23.

OBSERVATIONS OF THE MAGNETOMETERS. The H. F. was observed 2m., and the V. F. 4m. after the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta \psi$	$\Delta \theta$	$\frac{\Delta \phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
22 22 12	124·8	428·4		58·7		+·0007	−·0008	− 4·7	− 1·3	−·0007
18	126·0	432·2		59·5		+·0010	−.0007	− 4·0	− 1·4	−·0006
24	126·5	429·6		59·9		+·0007	−·0007	− 3·9	− 1·2	−·0006
30	124·6	434·5		60·8		+·0011	−·0006	− 5·4	− 1·4	−·0005
36	126·1	435·9		61·3		+·0011	−·0006	− 4·6	− 1·4	−·0005
42	126·7	437·7		62·1		+·0012	−·0005	− 4·4	− 1·4	−·0004
48	131·2	434·7		62·9		+·0010	−·0005	− 1·3	− 1·3	−·0004
54	132·5	435·3		63·6		+·0010	−·0004	− 0·6	− 1·2	−·0003
23 00	132·9	433·3	65·2	64·1	65·4	+·0008	−·0004	− 0·5	− 1·0	−·0003
06	134·7	433·0		64·6		+·0007	−·0003	+ 0·6	− 0·9	−·0002
12	136·4	433·2		65·1		+·0007	−·0003	+ 1·6	− 0·9	−·0002
18	136·4	430·9		65·5		+·0005	−·0003	+ 1·4	− 0·7	−·0003
24	137·0	430·9		65·9		+·0004	−·0002	+ 1·6	− 0·5	−·0002
30	135·6	430·6		65·9		+·0004	−·0003	+ 0·4	− 0·6	−·0003
36	134·5	429·1		65·9		+·0002	−·0003	− 0·5	− 0·4	−·0003
42	133·9	427·6		65·6		+·0001	−·0003	− 1·1	− 0·3	−·0003
48	134·9	423·2		65·6		−·0003	−·0003	− 0·6	0·0	−·0003
54	138·2	428·0		66·3		·0000	−·0003	+ 1·5	− 0·2	−·0003
23 00 00	138·9	430·1	64·8	66·3	64·8	+·0001	−·0003	+ 1·8	− 0·3	−·0003
06	135·9	425·7		66·3		−·0002	−·0003	− 0·4	− 0·1	−·0003
12	132·6	420·6		66·3		−·0006	−·0003	− 2·8	+ 0·2	−·0003
18	134·5	424·8		65·7		−·0002	−·0003	− 1·4	− 0·1	−·0003
24	133·2	422·7		65·8		−·0004	−·0003	− 2·4	+ 0·1	−·0003
30	135·9	426·4		66·2		−·0001	−·0003	− 0·5	− 0·2	−·0003
36	136·5	427·5		67·0		·0000	−·0002	− 0·1	− 0·2	−·0002
42	136·2	432·0		67·5		+·0004	−·0002	− 0·4	− 0·5	−·0002
48	131·3	421·8		66·8		−·0003	−·0002	− 3·9	+ 0·1	−·0002
54	132·2	424·3		67·2		−·0001	−·0002	− 3·3	− 0·1	−·0002
01 00	131·8	421·3	64·3	67·1	64·5	−·0003	−·0002	− 3·6	+ 0·1	−·0002
06	133·9	428·0		67·7		+·0002	−·0002	− 2·2	− 0·3	−·0002
12	131·2	422·2		60·6		−·0002	−·0008	− 4·1	− 0·5	−·0008
18	131·5	424·8		69·4		·0000	·0000	− 4·0	0·0	·0000
24	133·3	423·8		61·5		·0000	−·0008	− 2·7	− 0·7	−·0008
30	131·1	423·0		64·9		−·0001	−·0004	− 4·3	− 0·2	−·0004
36	132·7	424·1		61·4		·0000	−·0008	− 3·2	− 0·7	−·0008
42	132·2	424·9		67·6		+·0001	−·0002	− 3·6	− 0·2	−·0002
48	132·2	424·3		68·4		+·0001	−·0001	− 3·6	− 0·2	−·0001
54	133·2	424·3		68·7		+·0001	−·0001	− 3·0	− 0·2	−·0001
02 00	133·8	424·3	64·0	62·0	64·3	+·0002	−·0007	− 2·6	− 0·8	−·0006
06	133·5	425·8		74·1		+·0003	+·0004	− 2·6	+ 0·1	+·0004
12	134·6	428·1		67·6		+·0005	−·0002	− 1·5	− 0·6	−·0002
18	134·4	432·4		67·6		+·0008	−·0002	− 1·5	− 0·9	−·0001
24	133·2	429·0		66·9		+·0006	−·0002	− 2·3	− 0·7	−·0002
30	134·7	433·8		71·1		+·0010	−·0008	− 0·9	− 1·5	−·0007
36	135·1	433·8		68·8		+·0011	−·0001	− 0·4	− 1·0	·0000
42	134·5	433·5		66·3		+·0011	−·0003	− 0·7	− 1·2	−·0002
48	134·1	431·9		66·8		+·0010	−·0002	− 0·8	− 1·0	−·0001
54	134·0	431·9		67·0		+·0010	−·0002	− 0·7	− 1·0	−·0001
03 00	134·1	430·6	64·0	66·7	64·3	+·0009	−·0002	− 0·4	− 0·9	−·0001
06	133·3	430·3		66·8		+·0010	−·0002	− 0·8	− 1·0	−·0001
12	132·3	425·1		65·4		+·0006	−·0003	− 1·3	− 0·8	−·0002
18	134·0	424·1		65·4		+·0006	−·0003	+ 0·1	− 0·8	−·0002
24	134·5	425·2		65·4		+·0007	−·0003	+ 0·6	− 0·9	−·0002
30	133·9	425·2		65·1		+·0008	−·0004	+ 0·4	− 1·0	−·0003
36	134·1	424·3		65·7		+·0008	−·0003	+ 0·7	− 0·9	−·0002
42	132·0	423·1		65·0		+·0007	−·0004	− 0·6	− 0·9	−·0003
48	132·4	420·5		65·0		+·0006	−·0004	− 0·1	− 0·9	−·0003
54	132·5	421·3		64·7		+·0007	−·0004	+ 0·1	− 0·9	−·0003
04 00	131·9	420·1	64·5	64·7	64·3	+·0007	−·0004	− 0·1	− 0·9	−·0003
06	131·9	419·5		64·7		+·0006	−·0004	+ 0·2	− 0·9	−·0003
12	131·2	418·1		64·7		+·0005	−·0004	0·0	− 0·8	−·0003
18	129·8	416·6		64·4		+·0004	−·0004	− 0·6	− 0·7	−·0004

1842.
Toronto.

June 23.

OBSERVATIONS OF THE MAGNETOMETERS.

The H. F. was observed 2m., and the V. F. 4m. after the times specified.

Mean Göttingen Time.			Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
								$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D.	H.	M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
23	04	24	129·9	417·0		64·2		+·0004	−·0004	− 0·3	− 0·7	−·0004
		30	129·6	416·5		64·0		+·0004	−·0004	− 0·2	− 0·7	−·0004
		36	129·1	414·3		64·0		+·0002	−·0004	− 0·3	− 0·5	−·0004
		42	129·3	414·1		63·6		+·0002	−·0005	+ 0·1	− 0·6	−·0005
		48	129·1	415·1		63·6		+·0003	−·0004	+ 0·4	− 0·6	−·0004
		54	128·8	415·9		63·6		+·0003	−·0004	+ 0·4	− 0·6	−·0004
	05	00	128·4	415·9	64·9	63·1	64·5	+·0003	−·0005	+ 0·4	− 0·7	−·0005
		06	129·5	417·0		63·3		+·0004	−·0005	+ 1·5	− 0·8	−·0004
		12	128·7	409·3		63·3		−·0002	−·0004	+ 1·2	− 0·2	−·0004
		18	129·4	415·6		63·3		+·0003	−·0004	+ 2·0	− 0·6	−·0004
		24	128·1	416·7		63·7		+·0003	−·0004	+ 1·4	− 0·6	−·0004
		30	127·9	416·8		63·7		+·0003	−·0004	+ 1·5	− 0·6	−·0004
		36	127·7	415·1		63·7		+·0002	−·0004	+ 1·7	− 0·5	−·0004
		42	127·8	414·9		63·7		+·0002	−·0004	+ 2·0	− 0·5	−·0004
		48	128·5	417·8		63·9		+·0004	−·0004	+ 3·0	− 0·7	−·0004
		54	129·9	420·8		64·3		+·0005	−·0003	+ 4·2	− 0·7	−·0003
	06	00	128·3	417·1	65·0	63·8	64·7	+·0003	−·0004	+ 3·4	− 0·6	−·0004
		06	126·1	415·1		63·8		+·0002	−·0004	+ 1·8	− 0·5	−·0004
		12	125·8	413·5		63·8		·0000	−·0004	+ 1·8	− 0·3	−·0004
		18	125·7	419·7		64·2		+·0004	−·0003	+ 1·6	− 0·6	−·0003
		24	125·9	423·8		64·4		+·0007	−·0003	+ 2·0	− 0·9	−·0002
		30	127·0	427·7		64·4		+·0010	−·0003	+ 3·0	− 1·1	−·0002
		36	127·8	430·1		64·9		+·0011	−·0003	+ 3·6	− 1·2	−·0002
		42	128·2	426·4		64·9		+·0008	−·0003	+ 4·0	− 0·9	−·0002
		48	127·5	425·1		64·9		+·0007	−·0003	+ 3·6	− 0·9	−·0002
		54	127·1	424·6		64·9		+·0007	−·0003	+ 3·5	− 0·9	−·0002
	07	00	127·2	426·2	65·5	65·6	64·7	+·0008	−·0003	+ 3·6	− 0·9	−·0002
		06	125·8	419·6		65·0		+·0002	−·0003	+ 2·7	− 0·4	−·0003
		12	124·8	420·7		65·5		+·0003	−·0003	+ 2·0	− 0·5	−·0003
		18	124·0	420·9		65·5		+·0003	−·0003	+ 1·5	− 0·5	−·0003
		24	123·8	418·4		65·5		·0000	−·0003	+ 1·5	− 0·2	−·0003
		30	123·5	420·0		66·3		+·0001	−·0002	+ 1·4	− 0·2	−·0002
		36	122·8	420·2		66·7		+·0001	−·0002	+ 1·0	− 0·2	−·0002
		42	122·6	418·7		66·6		−·0001	−·0002	+ 1·0	− 0·1	−·0002
		48	121·3	411·9		66·2		−·0006	−·0002	+ 0·1	+ 0·3	−·0002
		54	119·9	406·1		66·8		−·0011	−·0002	− 0·7	+ 0·8	−·0003
	08	00	120·6	412·4	65·7	67·7	65·1	−·0006	−·0001	− 0·1	+ 0·4	−·0001
		06	121·7	424·1		69·3		+·0002	+·0001	+ 0·5	− 0·1	+·0001
		12	122·4	425·5		69·1		+·0003	·0000	+ 0·8	− 0·2	·0000
		18	122·4	426·6		69·4		+·0004	+·0001	+ 0·8	− 0·2	+·0001
		24	123·6	427·2		69·7		+·0004	+·0001	+ 1·5	− 0·2	+·0001
		30	125·2	431·9		70·2		+·0007	+·0001	+ 2·6	− 0·5	+·0001
		36	125·6	426·5		69·2		+·0003	·0000	+ 2·7	− 0·2	·0000
		42	125·2	421·4		69·4		−·0002	·0000	+ 2·3	+ 0·2	·0000
		48	124·1	417·4		69·6		−·0005	+·0001	+ 1·3	+ 0·5	+·0001
		54	123·1	422·7		68·8		−·0001	·0000	+ 0·5	+ 0·1	·0000
	09	00	121·3	418·9	66·2	68·5	65·4	−·0004	−·0001	− 0·9	+ 0·2	−·0001
		06	121·0	416·5		68·4		−·0006	−·0001	− 1·3	+ 0·4	−·0001
		12	120·9	419·3		68·4		−·0004	−·0001	− 1·5	+ 0·2	−·0001
		18	120·6	420·8		69·6		−·0004	·0000	− 1·8	+ 0·3	·0000
		24	121·0	422·9		68·6		−·0002	−·0001	− 1·6	+ 0·1	−·0001
		30	121·8	429·1		69·2		+·0002	·0000	− 1·2	− 0·2	·0000
		36	122·0	432·0		69·8		+·0004	·0000	− 1·2	− 0·3	·0000
		42	123·1	443·3		70·0		+·0012	·0000	− 0·6	− 1·0	+·0001
		48	123·4	440·8		70·3		+·0010	+·0001	− 0·4	− 0·8	+·0002
		54	123·3	442·8		70·9		+·0011	+·0001	− 0·6	− 0·9	+·0002

CAPE OF GOOD HOPE, 1842. JUNE 23.

1842. Cape of Good Hope. June 23. For Mean Monthly Readings, *see* page 68.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 2m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
23 10 02	43·9	88·9	61·5	49·6	61·6	−·0001	−·0001	− 0·9	0·0	−·0001
08	43·9	87·9		50·0		−·0003	·0000	− 0·9	+ 0·5	−·0001
14	43·9	87·8		50·3		−·0003	·0000	− 0·9	+ 0·5	−·0001
20	44·0	88·7		50·2		−·0002	·0000	− 0·9	+ 0·3	−·0001
26	44·0	89·5		50·4		−·0001	·0000	− 0·9	+ 0·2	·0000
32	43·4	90·0		50·4		·0000	·0000	− 1·4	0·0	·0000
38	43·3	90·8		50·3		+·0001	·0000	− 1·4	− 0·2	·0000
44	43·2	94·0		49·4		+·0007	−·0001	− 1·5	− 1·3	+·0002
50	42·8	98·3		48·7		+·0015	−·0002	− 1·9	− 2·8	+·0004
56	42·9	98·3		43·6		+·0015	−·0007	− 1·8	− 3·6	+·0001
11 02	45·3	101·0	61·4	37·6	61·3	+·0019	−·0014	0·0	− 7·1	−·0009
08	47·2	101·1		35·5		+·0020	−·0016	+ 1·4	− 5·9	−·0003
14	48·0	99·8		35·5		+·0017	−·0016	+ 2·0	− 5·4	−·0004
20	48·0	98·6		37·1		+·0015	−·0014	+ 2·0	− 4·8	−·0004
26	47·9	96·8		39·3		+·0012	−·0012	+ 1·9	− 4·0	−·0003
32	47·3	95·0		41·2		+·0008	−·0010	+ 1·4	− 3·0	−·0004
38	47·0	94·1		43·6		+·0007	−·0007	+ 1·2	− 2·3	−·0002
44	46·0	94·0		45·4		+·0007	−·0005	+ 0·5	− 2·0	−·0001
50	45·1	93·8		46·7		+·0006	−·0004	− 0·3	− 1·7	·0000
56	44·3	93·2		47·2		+·0005	−·0003	− 0·9	− 1·3	·0000
12 02	45·0	93·1	61·2	46·3	61·2	+·0005	−·0004	− 0·4	− 1·5	−·0001
08	45·2	92·3		46·5		+·0003	−·0004	− 0·2	− 1·2	−·0002
14	44·9	91·5		47·8		+·0002	−·0002	− 0·5	− 0·7	−·0001
20	45·1	91·4		47·9		+·0001	−·0002	− 0·4	− 0·5	−·0001
26	45·0	91·0		48·0		+·0001	−·0002	− 0·5	− 0·5	−·0001
32	45·0	91·3		47·7		+·0001	−·0002	− 0·5	− 0·5	−·0001
38	45·2	91·5		47·1		+·0001	−·0003	− 0·3	− 0·7	−·0002
44	45·2	91·7		46·7		+·0001	−·0003	− 0·3	− 0·7	−·0002
50	45·6	91·9		46·3		+·0002	−·0003	− 0·1	− 0·8	−·0001
56	45·6	—		—		—	—	− 0·1	—	—
13 02	45·6	91·9	60·9	46·0	61·1	+·0001	−·0003	− 0·1	− 0·7	−·0002

VAN DIEMEN ISLAND, 1842. JUNE 23—24.

1842. Van Diemen Island. June 23. For Mean Monthly Readings, *see* page 77.

23 11 02	81·2	68·1	48·3	84·8	49·0	−·0015	+·0010	+ 6·1	+ 2·7	+·0007
14	82·2	68·8		85·9		−·0015	+·0010	+ 6·9	+ 2·7	+·0007
20	82·7	74·2		84·0		−·0008	+·0009	+ 7·3	+ 1·8	+·0007
26	81·2	76·3		76·4		−·0006	+·0006	+ 6·3	+ 1·3	+·0005
32	77·8	78·2		73·7		−·0004	+·0004	+ 4·0	+ 0·9	+·0003
12 02	74·9	84·0	48·0	62·4	47·4	+·0003	−·0001	+ 2·2	− 0·4	−·0001
13 02	73·4	82·1	47·4	64·0	46·9	+·0001	−·0002	+ 1·5	− 0·3	−·0002
14 02	72·1	81·2	46·8	64·3	46·4	·0000	−·0004	+ 0·8	− 0·4	−·0004
15 02	72·5	78·0	47·2	62·5	46·7	−·0001	−·0004	+ 0·2	− 0·3	−·0004
16 02	75·6	81·6	47·5	72·8	47·0	+·0003	−·0002	+ 1·0	− 0·6	−·0001
17 02	76·3	77·2	47·7	79·9	46·9	−·0002	−·0001	+ 0·6	+ 0·1	−·0001
18 02	76·0	76·6	47·8	77·9	46·8	−·0003	−·0002	+ 0·4	+ 0·1	−·0002
19 02	77·0	79·5	48·2	79·8	46·7	·0000	−·0001	+ 1·9	− 0·1	−·0001
20 02	64·5	70·1	48·5	78·7	46·5	−·0012	·0000	− 5·7	+ 1·3	−·0001
08	—	72·7		72·5		−·0009	−·0002	—	+ 0·8	−·0003
14	63·6	75·8		70·7		−·0005	−·0003	− 6·3	+ 0·2	−·0003
20	63·7	78·4		66·1		−·0002	−·0004	− 6·3	− 0·2	−·0004
26	64·1	80·2		64·3		·0000	−·0005	− 6·0	− 0·4	−·0004
32	65·5	81·8		62·3		+·0002	−·0005	− 4·9	− 0·8	−·0004
38	66·9	82·7		58·4		+·0003	−·0007	− 4·0	− 1·1	−·0006
44	66·2	81·9		59·9		+·0002	−·0006	− 4·4	− 0·9	−·0005
50	68·0	82·6		59·8		+·0003	−·0006	− 3·1	− 1·0	−·0005
21 02	70·5	81·3	48·7	60·9	47·2	+·0002	−·0005	− 1·3	− 0·8	−·0004
22 02	72·3	76·4	48·8	77·7	47·8	−·0004	+·0002	+ 0·1	+ 0·7	+·0001

1842. Van Diemen Island. June 23—24.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 2m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
						$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta \psi$	$\Delta \theta$	$\frac{\Delta \phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force
23 23 02	64·8	67·2	48·7	81·5	46·9	−·0015	+·0001	− 4·7	+ 1·7	−·0001
24 00 02	61·7	77·7	48·5	78·2	46·0	−·0003	−·0002	− 6·5	+ 0·1	−·0002
08	63·2	80·7		75·1		·0000	−·0003	− 5·4	− 0·3	−·0003
14	63·6	84·9		71·0		+·0005	−·0004	− 5·1	− 1·0	−·0003
20	67·7	85·5		62·0		+·0006	−·0008	− 2·0	− 1·5	−·0007
26	68·2	80·8		66·6		·0000	−·0006	− 1·7	− 0·7	−·0005
32	67·7	80·3		66·0		−·0001	−·0006	− 2·0	− 0·4	−·0005
38	67·9	80·2		68·7		−·0002	−·0005	− 1·8	− 0·3	−·0005
44	70·4	78·2		70·3		−·0004	−·0004	− 0·2	0·0	−·0004
50	70·7	74·0		71·1		−·0009	−·0004	+ 0·3	+ 0·4	−·0005
01 02	66·9	74·7	47·7	72·0	46·1	−·0009	−·0003	− 2·3	+ 0·7	−·0004

1842. Cape of Good Hope. June 30. For Mean Monthly Readings, *see* page 68.

CAPE OF GOOD HOPE, 1842. JUNE 30.

30 16 02	46·8	106·7	55·3	52·4	55·6	+·0011	·0000	+ 0·7	− 1·8	+·0004
08	45·9	106·4		53·9		+·0010	+·0002	0·0	− 1·3	+·0005
14	45·1	106·2		54·3		+·0010	+·0002	− 0·6	− 1·3	+·0005
20	45·5	105·3		55·5		+·0009	+·0004	− 0·3	− 0·8	+·0006
26	45·5	106·2		56·1		+·0010	+·0004	− 0·3	− 1·0	+·0006
32	45·7	104·8		56·1		+·0008	+·0005	− 0·2	− 0·5	+·0006
38	44·9	104·0		57·1		+·0007	+·0006	− 0·8	− 0·2	+·0006
44	45·4	103·4		57·0		+·0005	+·0006	− 0·5	+ 0·2	+·0006
50	45·6	103·5		57·1		+·0006	+·0006	− 0·3	0·0	+·0006
56	45·9	102·8		56·6		+·0004	+·0005	− 0·1	+ 0·2	+·0005
17 02	45·9	102·2	55·4	55·8	55·7	+·0003	+·0004	− 0·1	+ 0·2	+·0004
08	46·1	102·2		55·9		+·0003	+·0005	0·0	+ 0·3	+·0004
14	46·5	102·6		56·3		+·0004	+·0005	+ 0·3	+ 0·2	+·0005
20	46·0	101·2		56·3		+·0001	+·0005	− 0·2	+ 0·7	+·0004
26	45·9	101·4		56·3		+·0001	+·0005	− 0·2	+ 0·7	+·0004
32	46·0	101·0		56·8		+·0001	+·0006	− 0·2	+ 0·8	+·0004
38	46·0	101·1		56·5		+·0001	+·0006	− 0·3	+ 0·8	+·0004
44	45·6	101·6		56·7		+·0001	+·0006	− 0·6	+ 0·8	+·0004
50	45·9	101·1		56·4		·0000	+·0006	− 0·5	+ 1·0	+·0004
56	46·1	101·4		56·3		+·0001	+·0006	− 0·3	+ 0·8	+·0004
18 02	46·0	101·1	55·4	56·3	55·6	·0000	+·0006	− 0·5	+ 1·0	+·0004
19 02	48·9	101·5	55·2	52·4	55·4	−·0001	+·0003	+ 1·1	+ 0·7	+·0002
20 02	49·3	103·1	54·9	55·4	55·2	−·0001	+·0003	+ 2·2	+ 0·7	+·0002
21 02	47·4	—	54·7	—	55·1	—	—	+ 2·2	—	—
26	46·1	105·0		59·2		+·0003	+·0005	+ 1·5	+ 0·3	+·0005
32	46·2	—		—		—	—	+ 1·7	—	—
22 02	45·5	104·2	54·8	58·2	55·0	+·0001	+·0004	+ 1·6	+ 0·5	+·0003

1842. Van Diemen Island. July 1.

VAN DIEMEN ISLAND, 1842. JULY 1.

MEAN MONTHLY READINGS OF THE MAGNETOMETERS.

Mean Göttingen Time.	Declination.	H. F. at 48°·8.	V. F. at 48°·4.	Mean Göttingen Time.	Declination.	H. F. at 48°·8.	V. F. at 48°·4.
Hours.	Sc. Div.	Sc. Div.	Sc. Div.	Hours.	Sc. Div.	Sc. Div.	Sc. Div.
00	71·3	76·3	70·7	12	72·6	80·0	60·2
01	71·9	76·2	70·4	13	72·3	77·9	62·7
02	72·4	76·6	69·1	14	73·0	74·9	67·1
03	72·2	75·9	66·1	15	74·4	72·5	66·2
04	73·1	77·4	69·6	16	76·0	74·0	71·0
05	73·7	77·4	68·9	17	77·2	74·6	72·8
06	74·4	77·4	67·4	18	77·6	75·5	73·2
07	74·5	77·4	66·1	19	77·0	76·4	72·7
08	74·6	78·1	64·7	20	75·9	77·6	72·5
09	74·3	78·8	63·6	21	74·4	78·1	70·7
10	74·2	79·6	63·0	22	74·2	77·8	70·2
11	73·8	80·5	61·9	23	71·7	76·7	69·4

Coefficients (A), Approximate Absolute Values (B).

(A) Declin. $a = 0'·71$

H. F. $k = ·000120$, $q = ·000234$

V. F. $k = ·000038$, $q = ·00021$

(B) Approx. $\psi = -\ 9°\ 55$, $X = 4·51$, $Y = 12·86$, $\theta = -\ 70°·37'$, $\phi = 13·62$

1842.
Van Diemen Island.

July 1.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 2m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours. $\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
01 17 02	71·3	80·0	46·9	74·8	46·1	+·0002	−·0004	− 4·2	− 0·7	−·0003
18 02	36·1	65·9	46·6	51·3	46·0	−·0017	−·0013	−29·5	+ 0·4	−·0013
14	44·0	—		—		—	—	−23·8	—	—
20	43·5	54·9		90·9		−·0030	+·0002	−24·0	+ 3·5	−·0001
26	45·3	57·4		97·9		−·0027	+·0005	−22·8	+ 3·5	+·0002
32	53·5	53·5		97·9		−·0031	+·0005	−16·9	+ 3·9	+·0001
38	50·2	56·9		94·3		−·0027	+·0004	−19·2	+ 3·2	+·0001
44	49·1	59·9		96·6		−·0024	+·0005	−20·0	+ 3·1	+·0002
50	52·8	69·6		94·9		−·0012	+·0005	−17·2	+ 1·8	+·0003
56	62·4	64·6		96·1		−·0018	+·0006	−10·4	+ 2·6	+·0003
19 02	68·8	65·4	47·2	96·1	46·9	−·0017	+·0006	− 5·8	+ 2·5	+·0003
32	70·1	67·7		75·9		−·0014	−·0001	− 4·5	+ 1·4	−·0002
20 02	79·1	67·3	47·8	90·6	47·8	−·0015	+·0006	+ 2·2	+ 2·3	+·0004
21 02	87·5	79·0	47·9	105·7	47·9	−·0001	+·0012	+ 9·3	+ 1·4	+·0011

1842.
Cape of Good Hope.

July 1.

CAPE OF GOOD HOPE, 1842. JULY 1—2.

MEAN MONTHLY READINGS OF THE MAGNETOMETERS.

Mean Göttingen Time.	Declination.	H. F. at 57°·9.	V. F. at 58°·2.	Mean Göttingen Time.	Declination.	H. F. at 57°·9.	V. F. at 58°·2.
Hours.	Sc. Div.	Sc. Div.	Sc. Div.	Hours.	Sc. Div.	Sc. Div.	Sc. Div.
00	44·6	94·8	62·1	12	45·9	92·9	62·4
01	44·8	94·3	62·4	13	46·5	93·7	62·4
02	45·5	94·3	61·6	14	46·2	94·7	61·6
03	45·6	94·7	62·9	15	46·6	94·0	62·5
04	44·8	94·7	64·7	16	46·7	94·7	62·1
05	44·3	94·7	64·8	17	46·9	94·8	61·8
06	44·2	93·3	65·1	18	48·1	95·3	59·5
07	44·2	93·4	64·3	19	47·9	95·8	61·0
08	44·5	92·3	64·9	20	46·8	96·2	63·3
09	44·6	92·3	64·1	21	45·7	96·4	64·3
10	44·7	92·1	64·0	22	44·6	96·0	63·7
11	45·3	92·5	62·9	23	44·0	95·5	62·7

Coefficients (A), Approximate Absolute Values (B.)

(A) Declin. $a = 0'·751$

H. F. $k = ·00018$, $q = ·00028$

V. F. $k = ·00011$, $q = ·00005$

(B) Approx. $\psi = 29°\,05'$, $X = 4·46$, $Y = 6·00$, $\theta = -53°\,12'$, $\phi = 7·50$

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 2m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours. $\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
1 18 02	66·3	93·4	56·2	31·3	55·1	−·0008	−·0033	+13·7	− 4·1	−·0024
08	70·1	92·2		34·8		−·0011	−·0029	+16·5	− 3·0	−·0023
14	71·9	90·9		48·4		−·0014	−·0014	+17·9	− 0·0	−·0014
20	68·7	93·8		45·1		−·0009	−·0018	+15·5	− 1·5	−·0015
26	67·9	96·4		44·0		−·0004	−·0019	+14·9	− 2·5	−·0014
32	65·1	99·6		49·5		+·0001	−·0013	+12·8	− 2·3	−·0008
38	63·3	100·5		47·5		+·0002	−·0016	+11·5	− 3·0	−·0010
44	62·1	101·9		45·8		+·0004	−·0018	+10·6	− 3·6	−·0010
50	62·1	104·7		45·3		+·0009	−·0018	+10·7	− 4·4	−·0008
56	60·0	106·0		45·0		+·0011	−·0019	+ 9·1	− 4·9	−·0008
19 02	60·0	108·3	55·2	41·0	55·8	+·0015	−·0023	+ 9·1	− 6·3	−·0009
08	60·2	109·5		39·1		+·0017	−·0026	+ 9·3	− 7·1	−·0011
14	59·3	108·3		41·3		+·0015	−·0023	+ 8·7	− 6·3	−·0009
20	57·8	105·9		44·1		+·0010	−·0021	+ 7·7	− 5·1	−·0010
26	58·0	104·5		46·2		+·0008	−·0019	+ 7·9	− 4·4	−·0009

1842.

Cape of Good Hope. July 1—2.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 2m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
1 19 32	55·6	100·7		53·7		+·0001	−·0011	+ 6·2	− 2·0	−·0007
38	54·5	99·7		58·8		−·0001	−·0005	+ 5·5	− 0·7	−·0004
44	52·7	99·2		58·8		−·0002	−·0006	+ 4·2	− 0·7	−·0005
50	52·4	97·3		61·1		−·0006	−·0004	+ 4·1	+ 0·3	−·0005
56	51·6	99·3		58·3		−·0003	−·0007	+ 3·5	− 0·7	−·0006
20 02	55·0	98·9	55·0	60·4(a)	55·3	−·0003	−·0005	+ 6·2	− 0·3	−·0004
08	51·9	99·9		60·8(a)		−·0001	−·0003	+ 3·9	− 0·3	−·0002
14	52·5	101·1		58·0(a)		+·0001	−·0008	+ 4·4	− 0·5	−·0005
20	52·4	100·3		59·9		−·0001	−·0006	+ 4·4	− 0·8	−·0004
26	52·5	97·9		62·5		−·0005	−·0003	+ 4·6	+ 0·3	−·0004
32	52·2	100·3		61·5		−·0001	−·0004	+ 4·5	− 0·5	−·0003
38	51·6	103·3		58·6(a)		+·0004	−·0008	+ 4·1	− 2·0	−·0004
44	50·5	102·3		61·5		+·0003	−·0004	+ 3·4	− 1·2	−·0002
50	49·8	102·3		63·1		+·0002	−·0003	+ 2·9	− 0·8	−·0001
56	49·8	99·4		61·2		−·0003	−·0005	+ 3·0	− 0·3	−·0004
21 02	49·2	95·9	54·9	67·7	55·1	−·0009	−·0002	+ 2·6	+ 1·2	−·0004
08	46·8	97·2		69·5		−·0007	+·0004	+ 0·9	+ 1·8	·0000
14	46·1	98·9		65·4		−·0004	·0000	+ 0·5	+ 0·7	−·0001
20	47·3	94·5		67·2		−·0012	+·0002	+ 1·4	+ 2·3	−·0003
26	46·8	97·5		67·9		−·0006	+·0003	+ 1·1	+ 1·5	·0000
32	45·6	96·5		69·3		−·0008	+·0004	+ 0·4	+ 2·0	·0000
38	43·5	96·2		70·7		−·0009	+·0006	− 1·1	+ 2·5	+·0001
44	44·9	97·7		66·2		−·0006	+·0001	0·0	+ 1·2	−·0001
50	46·3	95·6		64·5		−·0010	−·0001	+ 1·1	+ 1·5	−·0004
56	47·0	95·6		65·1		−·0010	·0000	+ 1·7	+ 1·7	−·0004
22 02	49·2	94·1	54·7	64·2	55·2	−·0012	−·0001	+ 3·5	+ 1·8	−·0005
08	49·8	93·4		65·9		−·0014	+·0001	+ 4·0	+ 2·5	−·0004
14	48·9	92·9		68·8		−·0014	+·0004	+ 3·3	+ 3·0	−·0002
20	47·0	92·3		72·0		−·0015	+·0008	+ 2·0	+ 3·8	·0000
26	46·1	94·7		70·0		−·0011	+·0006	+ 1·3	+ 2·8	·0000
32	44·9	95·5		69·4		−·0009	+·0006	+ 0·5	+ 2·5	+·0001
38	45·5	96·5		67·8		−·0007	+·0004	+ 1·0	+ 1·8	·0000
44	44·6	96·0		69·7		−·0008	+·0006	+ 0·3	+ 2·3	+·0001
50	43·3	95·8		69·0		−·0008	+·0005	− 0·6	+ 2·1	·0000
56	43·5	95·1		69·5		−·0009	+·0006	− 0·5	+ 2·5	+·0001
23 02	42·9	94·2	54·9	70·7	55·4	−·0011	+·0008	− 0·8	+ 3·1	+·0001
08	42·5	92·6		72·5		−·0014	+·0010	− 1·2	+ 4·0	+·0001
14	42·1	91·9		71·6		−·0015	+·0009	− 1·5	+ 4·0	·0000
20	44·9	90·2		70·5		−·0018	+·0007	+ 0·5	+ 4·1	−·0002
26	44·9	89·3		72·7		−·0019	+·0010	+ 0·5	+ 4·8	·0000
32	45·0	90·4		73·4		−·0017	+·0011	+ 0·5	+ 4·6	+·0001
38	43·6	90·2		74·4		−·0017	+·0012	− 0·6	+ 4·8	+·0002
44	43·0	91·0		74·0		−·0015	+·0012	− 1·1	+ 4·4	+·0002
50	41·9	90·0		74·3		−·0017	+·0012	− 2·0	+ 4·8	+·0002
56	41·9	89·0		73·3		−·0019	+·0011	− 2·0	+ 4·9	·0000
2 00 02	41·7	87·0	55·1	76·7	55·6	−·0022	+·0015	− 2·2	+ 6·1	+·0002
08	40·4	87·7		76·9		−·0020	+·0015	− 3·2	+ 5·8	+·0002
14	39·7	87·8		76·9		−·0020	+·0015	− 3·7	+ 5·8	+·0002
20	39·8	88·0		73·3		−·0019	+·0011	− 3·7	+ 4·9	·0000
26	41·7	87·4		70·0		−·0020	+·0007	− 2·3	+ 4·4	−·0003
32	43·5	84·7		71·9		−·0025	+·0009	− 0·9	+ 5·6	−·0003
38	43·1	81·1		75·3		−·0031	+·0013	− 1·2	+ 7·3	−·0003
44	43·0	80·0		78·0		−·0033	+·0016	− 1·3	+ 8·1	−·0002
50	42·1	80·0		78·7		−·0033	+·0017	− 2·0	+ 8·2	−·0001
56	41·9	79·2		80·2		−·0034	+·0018	− 2·2	+ 8·6	−·0001
01 02	41·9	79·8	55·5	79·4	55·7	−·0033	+·0018	− 2·2	+ 8·4	·0000
08	42·3	81·0		77·0		−·0031	+·0015	− 2·0	+ 7·6	−·0001
14	43·0	82·1		74·7		−·0028	+·0013	− 1·4	+ 6·8	−·0002
20	42·8	83·9		73·4		−·0025	+·0011	− 1·7	+ 5·9	−·0002
26	42·8	84·7		71·9		−·0024	+·0010	− 1·7	+ 5·6	−·0002
32	42·7	85·5		69·2		−·0022	+·0007	− 1·9	+ 4·8	−·0003
38	43·2	86·8		67·2		−·0020	+·0005	− 1·5	+ 4·1	−·0004

(a) Magnet vibrating.

1842.

Cape of Good Hope.
July 2.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 2m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	″	Parts of Total Force.
2 01 44	43·0	87·5		66·2		−·0019	+·0004	− 1·7	+ 3·8	−·0004
50	43·1	89·2		64·8		−·0016	+·0002	− 1·7	+ 3·0	−·0004
56	43·0	89·7		64·3		−·0014	+·0002	− 1·8	+ 2·6	−·0004
02 02	43·0	89·3	55·7	64·1	55·8	−·0015	+·0001	− 1·9	+ 2·6	−·0005
08	43·5	86·8		66·2		−·0020	+·0004	− 1·5	+ 4·0	−·0005
14	42·0	87·1		68·1		−·0019	+·0006	− 2·6	+ 4·1	−·0003
20	42·1	88·9		67·8		−·0016	+·0005	− 2·6	+ 3·5	−·0002
26	42·2	89·5		66·3		−·0015	+·0003	− 2·5	+ 3·0	−·0003
32	41·6	90·2		66·0		−·0014	+·0003	− 3·0	+ 2·8	−·0003
38	41·9	91·1		64·2		−·0012	+·0001	− 2·8	+ 2·1	−·0004
44	42·0	91·5		64·2		−·0012	+·0001	− 2·7	+ 2·1	−·0004
50	42·0	90·7		64·2		−·0013	·0000	− 2·7	+ 2·1	−·0005
56	42·0	91·2		63·8		−·0012	·0000	− 2·7	+ 2·0	−·0004
03 02	42·2	91·1	55·8	63·0	55·9	−·0012	−·0001	− 2·6	+ 1·8	−·0005
08	42·5	91·8		62·4		−·0011	−·0002	− 2·3	+ 1·5	−·0005
14	42·8	91·8		61·6		−·0011	−·0003	− 2·0	+ 1·3	−·0006
20	42·5	92·8		60·6		−·0009	−·0005	− 2·2	+ 0·7	−·0006
26	42·5	95·0		60·1		−·0005	−·0005	− 2·1	0·0	−·0005
32	42·0	96·0		57·8		−·0003	−·0008	− 2·4	− 0·8	−·0006
38	42·6	96·0		56·9		−·0003	−·0009	− 1·9	− 1·0	−·0007
44	42·8	92·8		59·0		−·0009	−·0007	− 1·7	+ 0·3	−·0008
50	41·9	89·6		63·2		−·0015	−·0003	− 2·3	+ 2·0	−·0007
56	41·6	88·8		65·1		−·0016	−·0001	− 2·5	+ 2·5	−·0006
04 02	41·7	88·7	55·9	65·7	56·1	−·0016	·0000	− 2·3	+ 2·6	−·0006
08	41·5	89·2		65·4		−·0015	·0000	− 2·4	+ 2·5	−·0005
14	41·1	88·9		65·3		−·0016	·0000	− 2·7	+ 2·6	−·0006
20	41·1	88·9		65·3		−·0016	·0000	− 2·6	+ 2·6	−·0006
26	41·1	88·8		64·7		−·0016	−·0001	− 2·6	+ 2·5	−·0006
32	41·2	90·8		63·1		−·0012	−·0003	− 2·5	+ 1·5	−·0006
38	41·7	90·1		62·6		−·0013	−·0003	− 2·1	+ 1·7	−·0007
44	41·2	91·2		62·0		−·0011	−·0004	− 2·4	+ 1·2	−·0006
50	40·9	90·0		62·0		−·0013	−·0004	− 2·6	+ 1·5	−·0007
56	40·9	89·4		62·9		−·0014	−·0003	− 2·6	+ 1·8	−·0007
05 02	40·1	87·9	56·4	63·9	56·7	−·0016	−·0002	− 3·2	+ 2·3	−·0007
08	40·2	88·2		64·7		−·0016	−·0001	− 3·1	+ 2·5	−·0006
14	40·1	86·2		65·4		−·0019	·0000	− 3·2	+ 3·1	−·0007
20	40·1	84·9		65·4		−·0021	·0000	− 3·2	+ 3·5	−·0007
26	40·6	83·0		66·9		−·0024	+·0001	− 2·9	+ 4·1	−·0008
32	40·1	81·8		68·6		−·0026	+·0003	− 3·1	+ 4·8	−·0007
38	40·0	81·1		69·9		−·0027	+·0005	− 3·2	+ 5·3	−·0006
44	39·8	79·5		71·4		−·0029	+·0006	− 3·3	+ 5·8	−·0007
50	39·1	77·8		73·8		−·0032	+·0009	− 3·8	+ 6·8	−·0006
56	39·0	76·1		75·3		−·0035	+·0011	− 3·9	+ 7·6	−·0005
06 02	38·2	73·9	56·7	77·7	56·8	−·0038	+·0013	− 4·5	+ 8·4	−·0005
08	37·2	70·8		81·3		−·0044	+·0017	− 5·3	+10·1	−·0005
14	37·2	69·4		82·4		−·0046	+·0019	− 5·3	+10·7	−·0004
20	37·7	69·1		82·4		−·0047	+·0019	− 4·9	+10·9	−·0005
26	38·0	70·0		82·9		−·0045	+·0019	− 4·7	+10·6	−·0004
32	36·2	69·0		85·9		−·0047	+·0023	− 6·0	+11·5	−·0002
38	34·9	67·6		89·5		−·0050	+·0027	− 7·0	+12·7	−·0001
44	32·5	71·8		89·5		−·0042	+·0027	− 8·8	+11·4	+·0002
50	30·3	78·8		88·9		−·0030	+·0026	−10·4	+ 9·2	+·0006
56	29·9	84·0		73·4		−·0020	+·0009	−10·7	+ 4·8	−·0001
07 02	33·0	86·5	56·7	70·4	56·8	−·0016	+·0006	− 8·4	+ 3·6	−·0002
08	35·9	86·5		63·4		−·0016	+·0002	− 6·2	+ 3·0	−·0004
14	37·0	82·5		63·4		−·0023	−·0002	− 5·5	+ 3·5	−·0009
20	38·0	81·5		64·6		−·0024	−·0001	− 4·7	+ 3·8	−·0009
26	38·2	80·2		66·5		−·0026	+·0001	− 4·6	+ 4·4	−·0009
32	37·8	79·7		67·7		−·0027	+·0003	− 5·0	+ 4·9	−·0008
38	37·7	78·5		69·2		−·0029	+·0004	− 5·0	+ 5·4	−·0008
44	36·5	77·5		71·5		−·0031	+·0007	− 5·9	+ 6·3	−·0007
50	35·4	76·9		72·8		−·0032	+·0008	− 6·8	+ 6·6	−·0006
56	35·1	76·8		71·9		−·0032	+·0007	− 7·1	+ 6·4	−·0007

1842.
Cape of Good Hope.
July 2.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 2m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
2 08 02	36·0	75·9	56·7	71·9	56·8	−·0033	+·0007	− 6·4	+ 6·6	−·0007
08	36·2	75·0		72·6		−·0035	+·0008	− 6·2	+ 7·1	−·0007
14	35·4	75·0		74·1		−·0035	+·0010	− 6·8	+ 7·4	−·0006
20	34·5	75·2		74·6		−·0034	+·0010	− 7·5	+ 7·3	−·0006
26	35·0	75·0		73·7		−·0035	+·0010	− 7·1	+ 7·4	−·0006
32	34·9	74·2		74·2		−·0036	+·0010	− 7·3	+ 7·6	−·0006
38	34·9	73·8		74·6		−·0037	+·0011	− 7·3	+ 7·9	−·0006
44	35·0	73·2		73·5		−·0038	+·0010	− 7·2	+ 7·9	−·0007
50	35·9	73·7		73·3		−·0037	+·0009	− 6·5	+ 7·6	−·0007
56	35·5	75·7		72·6		−·0033	+·0009	− 6·8	+ 6·9	−·0006
09 02	35·2	74·1	56·7	75·7	56·8	−·0036	+·0012	− 7·1	+ 7·9	−·0005
08	33·2	73·0		77·5		−·0038	+·0014	− 8·6	+ 8·6	−·0005
14	33·2	73·9		78·4		−·0036	+·0015	− 8·6	+ 8·4	−·0003
20	31·7	74·7		76·7		−·0035	+·0013	− 9·7	+ 7·9	−·0004
26	32·0	75·0		75·8		−·0034	+·0012	− 9·5	+ 7·6	−·0004
32	32·0	74·8		74·9		−·0034	+·0011	− 9·5	+ 7·4	−·0005
38	32·7	74·8		73·9		−·0034	+·0010	− 9·0	+ 7·3	−·0006
44	33·1	74·8		70·6		−·0034	+·0007	− 8·7	+ 6·8	−·0008
50	35·5	74·0		68·4		−·0036	+·0004	− 6·9	+ 6·6	−·0010
56	36·2	73·2		68·4		−·0037	+·0004	− 6·4	+ 6·8	−·0011
10 02	37·0	73·0	56·9	66·6	57·0	−·0037	+·0002	− 5·8	+ 6·6	−·0011
08	37·7	72·7		66·6		−·0038	+·0002	− 3·3	+ 6·8	−·0012
14	38·5	75·6		62·0		−·0033	+·0003	− 4·7	+ 5·9	−·0010
20	39·9	78·2		61·7		−·0028	−·0003	− 3·8	+ 4·1	−·0012
26	38·8	80·2		60·0		−·0025	−·0004	− 4·6	+ 3·5	−·0011
32	38·2	81·2		59·5		−·0023	−·0005	− 4·4	+ 3·0	−·0011
38	38·0	81·6		59·1		−·0022	−·0005	− 5·3	+ 2·8	−·0011
44	37·9	81·3		58·3		−·0023	−·0006	− 5·4	+ 2·8	−·0012
50	38·9	80·3		56·4		−·0025	−·0008	− 4·7	+ 2·8	−·0016
56	40·3	79·3		55·8		−·0027	−·0009	− 3·7	+ 3·0	−·0014
11 02	41·9	79·3	56·9	55·8	57·0	−·0027	−·0008	− 2·6	+ 3·1	−·0015

1842.
Toronto.
July 1.

TORONTO, 1842. JULY 1—4.

MEAN MONTHLY READINGS OF THE MAGNETOMETERS.

Mean Göttingen Time.	Declination.	H. F. at 69°·4.	V. F. at 69°·3.	Mean Göttingen Time.	Declination.	H. F. at 69°·4.	V. F. at 69°·3.
Hours.	Sc. Div.	Sc. Div.	Sc. Div.	Hours.	Sc. Div.	Sc. Div.	Sc. Div.
00	136·7	406·8	57·8	12	130·7	417·9	59·8
01	138·9	406·5	58·1	13	131·8	415·8	59·6
02	140·5	401·4	58·1	14	135·1	411·6	59·4
03	138·3	396·8	57·8	15	133·0	408·0	58·7
04	134·4	392·6	58·0	16	134·3	407·2	58·3
05	130·5	394·3	57·2	17	134·1	407·5	57·7
06	125·8	397·9	57·3	18	135·5	403·2	56·1
07	124·4	404·7	57·9	19	132·2	407·1	55·0
08	123·5	411·5	58·2	20	131·5	404·9	54·9
09	125·0	419·6	59·0	21	132·3	405·0	55·7
10	126·6	422·1	59·9	22	132·0	407·9	56·4
11	129·0	420·7	60·1	23	136·4	404·3	57·5

Coefficients (A), Approximate Absolute Values (B.)

(A) Declin. $a = 0'·721$
H. F. $k = ·000074$, $q = ·00026$
V. F. $k = ·000094$, $q = ·00011$

(B) Approx. $\psi = 1^{\circ}_{\frac{1}{2}}\,19'$, $X = 3·54$, $Y = 13·44$, $\theta = 75^{\circ}\,16'$, $\phi = 13·90$

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 2m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
						$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta \psi$	$\Delta \theta$	$\frac{\Delta \phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
1 18 02	159·7	453·5	65·0	34·6	65·0	+·0026	−·0025	+17·4	− 4·3	−·0022
14	159·9	490·1		19·7		+·0053	−·0038	+18·1	− 7·7	−·0032
20	152·2	482·0		20·2		+·0046	−·0037	+12·7	− 7·0	−·0032
26	145·1	454·8		19·3		+·0026	−·0038	+ 7·8	− 5·4	−·0034
32	146·3	426·1		12·3		+·0005	−·0044	+ 9·0	− 4·1	−·0041
38	145·8	426·7		6·1		+·0005	−·0049	+ 8·8	− 4·6	−·0046
44	139·2	415·6		− 0·2(a)		−·0003	−·0055	+ 4·3	− 4·4	−·0052
50	116·8	360·8		4·5		−·0044	−·0050	−11·6	− 0·5	−·0050
56	108·6	339·6		19·0		−·0060	−·0036	−17·2	+ 2·0	−·0038
19 02	137·2	368·4	65·5	22·3	67·0	−·0039	−·0033	+ 3·6	+ 0·5	−·0033
08	141·5	406·0		25·0		−·0011	−·0031	+ 6·8	− 1·7	−·0030
14	133·4	410·2		39·4		−·0008	−·0017	+ 0·9	− 0·8	−·0016
20	143·1	440·6		35·4		+·0015	−·0021	+ 8·0	− 3·1	−·0019
26	138·0	404·2		21·3		−·0012	−·0034	+ 4·4	− 1·9	−·0033
32	124·7	369·5		15·7		−·0037	−·0039	− 5·1	− 0·2	−·0039
38	115·0	335·1		5·1		−·0062	−·0049	−12·1	+ 1·1	−·0050
44	106·7	324·9		7·4		−·0070	−·0046	−18·0	+ 2·0	−·0048
50	111·3	324·8		8·3		−·0070	−·0046	−14·6	+ 2·0	−·0048
56	120·6	331·0		15·3		−·0065	−·0039	− 7·9	+ 2·2	−·0041
20 02	120·7	354·4	65·6	11·5	67·3	−·0047	−·0043	− 7·8	+ 0·3	−·0043
08	113·1	282·5		− 2·3(a)		−·0100	−·0056	−13·4	+ 3·7	−·0059
14	108·9	282·0		− 2·3(a)		−·0101	−·0056	−16·4	+ 3·8	−·0059
20	98·3	253·3		−27·3(a)		−·0122	−·0079	−24·1	+ 3·6	−·0082
26	94·0	174·8		−27·3(a)		−·0180	−·0079	−27·2	+ 8·5	−·0086
32	106·7	163·7		− 7·2(a)		−·0188	−·0061	−18·1	+10·7	−·0067
38	121·5	206·2		6·3		−·0156	−·0048	− 7·6	+ 9·1	−·0055
44	133·1	170·8		2·8		−·0182	−·0051	+ 0·7	+11·1	−·0059
50	148·4	223·1		0·1		·0144	−·0054	+11·7	+ 7·6	−·0060
56	149·6	233·2		7·8		−·0136	−·0047	+12·5	+ 7·5	−·0053
21 02	148·6	200·0	66·0	− 1·0(a)	67·1	−·0161	−·0055	+11·7	+ 9·0	−·0062
08	130·5	167·9		− 3·6(a)		−·0185	−·0058	− 1·3	+10·7	−·0066
14	137·5	211·8		−21·3(a)		−·0152	−·0074	+ 3·8	+ 6·6	−·0079
20	123·4	181·3		11·5		−·0175	−·0044	− 6·4	+11·1	−·0052
26	141·4	159·3		4·0		−·0117	−·0051	+ 6·6	+ 5·6	−·0055
32	129·3	170·1		−21·3(a)		−·0184	−·0075	− 2·0	+ 9·2	−·0082
38	102·3	125·5		−22·3(a)		−·0217	−·0076	−21·5	+11·9	−·0085
44	94·1	159·8		−26·5(a)		−·0191	−·0080	−27·4	+ 9·4	−·0087
50	97·1	229·6		− 4·3(a)		−·0140	−·0059	−25·2	+ 6·8	−·0064
56	104·4	293·3		11·3		−·0093	−·0045	−19·8	+ 4·1	−·0048
22 02	121·8	341·2	66·2	10·7	66·7	−·0058	−·0045	− 7·3	+ 1·1	−·0046
08	130·2	351·3		9·0		−·0050	−·0047	− 1·5	+ 0·2	−·0047
14	141·4	371·4		13·3		−·0035	−·0043	+ 6·2	− 0·8	−·0043
20	131·5	341·2		7·9		−·0057	−·0048	− 1·3	+ 0·8	−·0049
26	140·0	—		—		—	—	+ 4·4	—	—
32	135·9	—		—		—	—	+ 1·2	—	—
38	136·6	—		—		—	—	+ 1·4	—	—
44	141·3	328·5		18·6		−·0065	−·0039	+ 4·4	+ 2·2	−·0041
50	146·2	324·2		21·6		−·0068	−·0037	+ 7·7	+ 2·5	−·0039
56	157·2	322·9		19·6		−·0069	−·0039	+15·2	+ 2·5	−·0041
23 02	171·2	337·0	66·2	18·5	66·1	−·0058	−·0040	+25·1	+ 1·5	−·0041
08	173·1	331·9		16·4		−·0062	−·0042	+26·4	+ 1·7	−·0043
14	169·9	336·0		24·9		−·0060	−·0034	+24·1	+ 2·2	−·0036
20	168·5	377·7		35·9		−·0029	−·0024	+23·0	+ 0·3	−·0024
26	161·4	382·5		41·9		−·0026	−·0018	+17·9	+ 0·7	−·0018
32	152·3	384·9		44·9		−·0025	−·0016	+11·3	+ 0·8	−·0017
38	154·7	402·0		47·6		−·0012	−·0013	+13·1	+ 0·1	−·0013
44	151·7	387·4		43·4		−·0023	−·0017	+10·9	+ 0·5	−·0017
50	142·9	374·1		39·8		−·0034	−·0021	+ 4·5	+ 1·1	−·0022
56	131·1	331·9		35·0		−·0065	−·0025	− 4·0	+ 3·4	−·0028
2 00 02	131·7	312·4	65·5	30·9	65·5	−·0080	−·0029	− 3·6	+ 4·3	−·0032
08	129·5	298·8		22·9		−·0090	−·0037	− 5·3	+ 4·5	−·0040
14	128·1	246·1		22·2		−·0129	−·0037	− 6·5	+ 7·8	−·0043

(a) These readings have the − sign properly prefixed.

1842.
Toronto.

July 2.

OBSERVATIONS OF THE MAGNETOMETERS. The Declination was observed 2m. before, and the V. F. 2m. after the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta \psi$	$\Delta \theta$	$\frac{\Delta \phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
2 00 20	143·5	236·9		25·7		−·0136	−·0034	+ 4·4	+ 8·6	−·0041
26	146·2	263·1		30·4		−·0117	−·0030	+ 6·2	+ 7·3	−·0036
32	165·2	280·0		37·1		−·0104	−·0024	+19·7	+ 6·8	−·0029
38	161·6	326·1		47·1		−·0070	−·0015	+17·0	+ 4·6	−·0019
44	161·6	361·9		51·0		−·0044	−·0011	+16·9	+ 2·8	−·0013
50	157·9	363·7		53·9		−·0043	−·0009	+14·0	+ 2·9	−·0011
56	155·0	410·5		62·1		−·0008	−·0001	+11·7	+ 0·6	−·0001
01 02	145·9	423·8	65·2	63·3	65·0	+·0002	·0000	+ 5·0	− 0·2	·0000
08	135·1	420·0		64·5		−·0001	+·0001	− 2·9	+ 0·2	+·0001
14	133·5	417·5		65·4		−·0010	+·0002	− 4·1	+ 1·0	+·0001
20	137·5	408·6		65·4		−·0008	+·0002	− 1·3	+ 0·9	+·0001
26	141·0	409·2		67·9		−·0008	+·0004	+ 1·1	+ 1·0	+·0003
32	145·8	414·5		68·9		−·0003	+·0005	+ 4·4	+ 0·7	+·0005
38	145·1	411·2		70·1		−·0005	+·0006	+ 3·7	+ 0·9	+·0005
44	149·0	409·1		68·8		−·0007	+·0005	+ 6·5	+ 1·0	+·0004
50	153·2	405·9		70·6		−·0009	+·0007	+ 9·4	+ 1·4	+·0006
56	151·1	408·8		69·7		−·0006	+·0006	+ 7·8	+ 1·0	+·0005
02 02	150·9	415·0	65·0	70·1	64·8	−·0001	+·0006	+ 7·5	+ 0·6	+·0006
08	151·2	413·4		69·6		−·0002	+·0006	+ 7·8	+ 0·7	+·0006
14	144·0	415·5		68·8		·0000	+·0005	+ 2·8	+ 0·3	+·0005
20	146·4	417·2		69·9		+·0002	+·0006	+ 4·7	+ 0·3	+·0006
26	149·1	411·9		68·9		−·0002	+·0005	+ 6·9	+ 0·6	+·0005
32	148·6	413·9		68·8		·0000	+·0005	+ 6·6	+ 0·3	+·0005
38	148·4	417·0		68·3		+·0003	+·0005	+ 6·6	+ 0·2	+·0005
44	148·3	413·7		68·9		·0000	+·0005	+ 6·7	+ 0·3	+·0005
50	147·1	418·6		68·3		+·0005	+·0005	+ 6·1	0·0	+·0005
56	145·6	415·5		68·1		+·0003	+·0004	+ 5·1	+ 0·1	+·0004
03 02	144·5	417·8	65·2	68·1	64·5	+·0004	+·0004	+ 4·4	0·0	+·0004
04 02	132·1	419·4	64·5	68·1	64·5	+·0007	+·0004	− 1·6	+ 0·2	+·0004
05 02	134·0	400·7	63·6	69·1	64·2	−·0011	+·0005	+ 2·6	+ 1·4	+·0004
06 02	120·7	399·4	63·5	76·9	63·7	−·0015	+·0012	− 3·7	+ 2·3	+·0010
07 02	134·2	(a)443·5	63·5	97·2	63·7	−·0013	+·0031	+ 7·1	+ 3·7	+·0028
44	138·8	507·5		109·4		+·0059	+·0042	+10·8	− 1·4	+·0043
50	136·1	511·8		111·7		+·0062	+·0045	+ 8·9	− 1·4	+·0046
56	138·7	514·6		109·6		+·0064	+·0043	+10·9	− 1·8	+·0044
08 02	140·0	525·7	64·6	107·4	64·6	+·0072	+·0041	+11·9	− 2·5	+·0043
08	141·0	528·6		104·8		+·0074	+·0038	+12·4	− 3·1	+·0040
14	134·4	529·6		106·8		+·0074	+·0040	+ 7·6	− 2·9	+·0042
20	138·5	524·9		106·9		+·0070	+·0040	+10·5	− 2·5	+·0042
26	136·3	534·7		105·6		+·0077	+·0039	+ 8·7	− 3·2	+·0041
32	138·4	536·7		98·2		+·0078	+·0032	+10·2	− 3·9	+·0035
38	131·1	502·7		97·0		+·0053	+·0031	+ 4·8	− 1·9	+·0032
44	138·0	520·3		96·3		+·0065	+·0030	+ 9·7	− 3·0	+·0032
50	128·2	545·4		99·3		+·0084	+·0033	+ 2·6	− 4·3	+·0036
56	131·9	608·5		109·9		+·0130	+·0043	+ 5·0	− 7·3	+·0049
09 02	135·7	576·1	65·4	105·8	65·1	+·0106	+·0039	+ 7·7	− 5·7	+·0043
08	140·3	541·6		106·9		+·0080	+·0040	+10·9	− 3·4	+·0043
14	141·7	568·8		109·4		+·0100	+·0042	+11·8	− 4·9	+·0046
20	134·4	540·8		106·3		+·0079	+·0039	+ 6·4	− 3·4	+·0042
26	130·1	552·6		112·0		+·0088	+·0044	+ 3·3	− 3·7	+·0047
32	127·8	534·0		107·6		+·0074	+·0040	+ 1·4	− 2·9	+·0042
38	125·5	532·7		108·9		+·0073	+·0042	− 0·4	− 2·5	+·0044
44	131·3	533·9		107·7		+·0073	+·0040	+ 3·7	− 2·8	+·0042
50	129·1	542·9		106·7		+·0080	+·0039	+ 2·0	− 3·5	+·0042
56	124·6	529·0		108·4		+·0069	+·0042	− 1 3	− 2·3	+·0044
10 02	124·4	552·2	65·6	108·6	65·3	+·0086	+·0041	− 1·5	− 3·6	+·0044
08	125·6	565·0		108·8		+·0096	+·0041	− 0·8	− 4·6	+ 0045
14	129·4	598·1		120·2		+ 0121	+·0053	+ 1·6	− 5·8	+·0057
20	129·4	671·9		133 6		+·0176	+·0064	+ 1·5	− 9·5	+·0071
26	146·8	622·9		93·6		+·0140	+·0027	+13·8	− 9·5	+·0034
32	161·5	575·2		86 7		+·0105	+·0021	+24·3	− 7·1	+·0026
38	139·7	551·6		93·5		+·0087	+·0027	+ 8·4	− 5·1	+·0031

(a) Two minutes late.

1842.
Toronto.
July 2.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 2m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
						$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
2 10 44	146·4	564·1		92·2		+·0097	+·0026	+13·1	− 6·0	+·0031
50	131·1	548·0		93·4		+·0085	+·0027	+ 1·8	− 4·9	+·0031
56	135·5	502·0		93·4		+·0051	+·0027	+ 4·8	− 2·0	+·0029
11 02	134·9	506·4	66·0	92·9	65·7	+·0055	+·0027	+ 4·2	− 2·4	+·0029
08	122·9	504·9		99·5		+·0054	+·0033	− 4·5	− 1·8	+·0034
14	122·8	491·9		98·2		+·0045	+·0032	− 4·7	− 1·1	+·0033
20	131·0	496·3		94·0		+·0048	+·0028	+ 1·1	− 1·7	+·0029
26	129·1	488·5		92·5		+·0043	+·0026	− 0·4	− 1·4	+·0027
32	119·5	470·9		90·7		+·0030	+·0025	− 7·5	− 0·3	+·0025
38	123·0	470·2		91·9		+·0030	+·0026	− 5·0	− 0·3	+·0026
44	123·1	472·9		97·9		+·0032	+·0032	− 5·1	0·0	+·0032
50	125·9	462·9		96·3		+·0025	+·0030	− 3·3	+ 0·3	+·0030
56	144·5	446·0		86·9		+·0013	+·0022	+10·1	+ 0·8	+·0021
12 02	144·4	442·2	66·5	83·2	65·9	+·0011	+·0018	+ 9·9	+ 0·6	+·0018
08	142·4	440·0		80·6		+·0009	+·0016	+ 8·3	+ 0·6	+·0016
14	133·5	425·6		78·4		−·0001	+·0014	+ 1·8	+ 1·3	+·0013
20	131·3	416·4		74·9		−·0008	+·0011	+ 0·2	+ 1·6	+·0010
26	124·5	391·4		79·6		−·0026	+·0015	− 4·7	+ 3·5	+·0012
32	133·9	420·8		80·5		−·0004	+·0016	+ 1·8	+ 1·7	+·0015
38	120·8	410·5		83·4		−·0012	+·0018	− 7·6	+ 2·5	+·0016
44	123·2	393·2		82·0		−·0024	+·0017	− 6·0	+ 3·5	+·0014
50	133·1	394·9		79·9		−·0023	+·0015	+ 1·1	+ 3·2	+·0013
56	133·7	397·5		78·6		−·0021	+·0014	+ 1·4	+ 3·0	+·0012
13 02	132·4	387·3	66·8	77·4	66·1	−·0028	+·0013	+ 0·4	+ 3·5	+·0010
08	134·0	386·2		77·4		−·0028	+·0013	+ 1·3	+ 3·5	+·0010
14	129·5	378·2		77·0		−·0034	+·0013	− 2·2	+ 4·0	+·0010
20	130·0	373·9		76·3		−·0037	+·0012	− 2·0	+ 4·1	+·0009
26	132·0	374·9		74·9		−·0036	+·0011	− 0·8	+ 4·0	+·0008
32	130·3	372·2		74·9		−·0037	+·0011	− 2·3	+ 4·1	+·0008
38	130·4	375·5		73·1		−·0034	+·0010	− 2·5	+ 3·7	+·0007
44	127·8	376·2		72·1		−·0034	+·0009	− 4·5	+ 3·6	+·0006
50	130·8	377·4		70·3		−·0032	+·0007	− 2·6	+ 3·3	+·0004
56	134·1	377·5		68·9		−·0032	+·0006	− 0·5	+ 3·2	+·0004
14 02	136·2	361·6	67·0	66·3	66·5	−·0043	+·0004	+ 0·8	+ 4·0	+·0001
08	141·5	358·4		62·4		−·0045	·0000	+ 4·7	+ 3·8	−·0003
14	148·3	359·9		61·5		−·0044	−·0001	+ 9·8	+ 3·6	−·0004
20	152·6	362·7		59·0		−·0041	−·0003	+13·1	+ 3·2	−·0005
26	152·8	374·8		59·3		−·0032	−·0003	+13·4	+ 2·4	−·0005
32	145·3	375·9		62·9		−·0031	+·0001	+ 8·1	+ 2·7	−·0001
38	149·2	388·7		62·5		−·0021	+·0001	+11·1	+ 1·9	·0000
44	146·5	390·7		61·1		−·0019	·0000	+ 9·2	+ 1·6	−·0001
50	142·6	388·4		60·6		−·0021	−·0001	+ 6·6	+ 1·7	−·0002
56	135·5	382·6		62·6		−·0025	+·0002	+ 1·6	+ 2·3	·0000
15 02	131·1	381·0	67·2	63·2	67·5	−·0026	+·0002	− 1·3	+ 2·4	·0000
08	132·7	376·2		63·2		−·0029	+·0002	− 0·3	+ 2·5	·0000
14	132·6	368·2		62·2		−·0035	+·0001	− 0·5	+ 3·1	−·0001
20	132·9	364·7		62·5		−·0037	+·0002	− 0·4	+ 3·3	−·0001
26	135·6	362·4		61·4		−·0039	+·0001	+ 1·5	+ 3·4	−·0002
32	137·9	353·7		59·8		−·0045	−·0001	+ 3·0	+ 3·9	−·0004
38	133·7	357·8		58·9		−·0042	−·0002	− 0·1	+ 3·4	−·0005
44	133·8	361·7		56·0		−·0039	−·0004	− 0·1	+ 3·0	−·0006
50	138·9	358·0		53·8		−·0042	−·0006	+ 3·5	+ 3·1	−·0008
56	142·5	353·4		46·1		−·0045	−·0013	+ 6·0	+ 2·7	−·0015
16 02	138·2	333·2	67·4	44·1	67·5	−·0060	−·0015	+ 2·8	+ 3·8	−·0018
08	140·8	348·5		42·8		−·0049	−·0016	+ 4·7	+ 2·8	−·0018
14	133·3	359·4		43·4		−·0041	−·0016	− 0·7	+ 2·1	−·0018
20	123·9	359·5		51·8		−·0041	−·0008	− 7·4	+ 2·8	−·0010
26	132·0	375·2		57·2		−·0029	−·0003	− 1·5	+ 2·2	−·0005
32	140·3	397·6		57·2		−·0013	−·0003	+ 4·4	+ 0·9	−·0004
38	133·3	401·0		57·2		−·0011	−·0003	− 0·6	+ 0·7	−·0003
44	125·7	395·1		57·2		−·0015	−·0003	− 6·2	+ 1·0	−·0004

1842. Toronto.

July 2.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 2m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours. $\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
2 16 50	122·1	383·7		57·2		−·0024	−·0003	− 8·6	+ 1·8	−·0004
56	126·6	377·7		56·4		−·0028	−·0003	− 5·4	+ 2·1	−·0005
17 02	131·9	371·6	67·0	55·2	67·5	−·0033	−·0004	− 1·5	+ 2·4	−·0006
08	137·9	376·0		53·9		−·0029	−·0005	+ 2·7	+ 2·0	−·0007
14	137·6	375·9		53·9		−·0029	−·0005	+ 2·3	+ 2·0	−·0007
20	133·2	376·2		53·2		−·0028	−·0006	− 0·9	+ 1·9	−·0007
26	126·0	371·9		51·5		−·0031	−·0007	− 6·3	+ 2·0	−·0009
32	123·0	383·7		49·2		−·0022	−·0009	− 8·5	+ 1·1	−·0010
38	136·0	385·1		41·0		−·0021	−·0017	+ 0·8	+ 0·3	−·0017
44	129·9	382·6		43·3		−·0022	−·0014	− 3·7	+ 0·7	−·0014
50	126·4	391·0		45·9		−·0016	−·0012	− 6·4	+ 0·3	−·0012

1842. St. Helena.

July 1.

ST. HELENA, 1842. JULY 1—2.

MEAN MONTHLY READINGS OF THE MAGNETOMETERS.

Mean Göttingen Time.	Declination.	H. F. at 60°·7.	V. F. at 60°·4.	Mean Göttingen Time.	Declination.	H. F. at 60°·7.	V. F. at 60°·4.
Hours.	Sc. Div.	Sc. Div.	Sc. Div.	Hours.	Sc. Div.	Sc. Div.	Sc. Div.
00	22·3	67·4	5·8	12	22·1	61·0	6·2
01	22·3	67·6	—	14	22·4	61·8	5·5
02	21·7	67·4	6·4	15	22·5	61·4	—
03	21·2	66·4	—	16	22·6	62·3	5·3
04	21·1	64·9	6·5	18	22·8	62·6	5·3
05	20·8	63·6	—	19	23·4	62·4	—
06	20·5	62·9	6·6	20	25·0	62·8	5·2
08	20·9	61·1	6·6	21	24·5	63·7	—
10	21·5	60·3	6·5	22	23·1	65·4	5·4
11	21·9	60·8	—	23	22·4	66·7	—

Coefficients (A), Approximate Absolute Values (B).

(A) Declin. $a = 0'·711$

H. F. $k = ·00019$, $q = ·00028$

V. F. $k = ·0007$, $q = ·00002$

(B) Approx. $\psi = 23°\,07'$, $X = 5·57$, $Y = 2·20$, $\theta = -21°\,33'$, $\phi = 6·00$

OBSERVATIONS OF THE MAGNETOMETERS.

The Vertical Force was observed 2m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours. $\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
1 18 02	(a)—	68·0	60·6	6·0	60·2	+·0010	+·0005	—	− 0·6	−·0009
19 18	—	73·0	60·6	5·5	60·4	+·0020	+·0001	—	− 2·1	+·0018
22	—	72·7		5·5		+·0019	+·0001	—	− 2·1	+·0017
26	—	71·2		5·3		+·0016	·0000	—	− 1·9	+·0014
30	—	70·2		5·6		+·0014	+·0002	—	− 1·4	+·0012
34	—	67·3		6·0		+·0009	+·0005	—	− 0·5	+·0008
38	—	65·9		6·8		+·0006	+·0011	—	+ 0·6	+·0007
42	—	64·9		6·8		+·0004	+·0011	—	+ 0·8	+·0005
46	—	64·8		7·2		+·0004	+·0014	—	+ 1·2	+·0005
50	—	63·0		7·6		·0000	+·0017	—	+ 2·0	+·0002
54	—	62·1		8·2		−·0002	+·0021	—	+ 2·7	+·0001
58	—	61·9		7·9		−·0002	+·0019	—	+ 2·5	+·0001
20 02	—	60·8	60·5	7·9	60·6	−·0004	+·0019	—	+ 2·7	−·0001
22 02	—	56·0	60·5	7·5	60·2	−·0018	+·0015	—	+ 3·9	−·0014
06	—	56·0		7·5		−·0018	+·0015	—	+ 3·9	−·0014
10	—	55·1		7·5		−·0020	+·0015	—	+ 4·1	−·0015
14	—	56·1		7·6		−·0018	+·0015	—	+ 3·9	−·0014
18	—	56·3		7·6		−·0018	+·0015	—	+ 3·9	−·0014

(a) The Declination Magnet was employed in Experiments on the 1st and 2nd July.

1842.
St. Helena.
July 1—2.

OBSERVATIONS OF THE MAGNETOMETERS. The Vertical Force was observed 2m. after the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta \psi$	$\Delta \theta$	$\frac{\Delta \phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
1 22 22	—	57·3		7·4		−·0016	+·0013	—	+ 3·4	−·0012
26	—	58·9		7·4		−·0014	+·0013	—	+ 3·2	−·0010
30	—	58·1		7·4		−·0015	+·0013	—	+ 3·3	−·0011
34	—	59·1		7·4		−·0014	+·0013	—	+ 3·2	−·0010
38	—	59·1		7·5		−·0014	+·0014	—	+ 3·3	−·0010
42	—	59·0		7·4		−·0014	+·0013	—	+ 3·2	−·0010
46	—	58·9		7·3		−·0014	+·0012	—	+ 3·1	−·0010
50	—	58·9		7·5		−·0014	+·0013	—	+ 3·2	−·0010
54	—	58·9		7·5		−·0014	+·0013	—	+ 3·2	−·0010
58	—	58·8		7·5		−·0015	+·0013	—	+ 3·3	−·0011
23 02	—	58·1	60·6	7·4	60·4	−·0016	+·0013	—	+ 3·4	−·0012
06	—	57·9		7·7		−·0017	+·0015	—	+ 3·8	−·0013
10	—	56·0		7·6		−·0021	+·0014	—	+ 4·1	−·0016
14	—	55·9		7·6		−·0021	+·0014	—	+ 4·1	−·0016
18	—	54·8		7·8		−·0023	+·0015	—	+ 4·5	−·0018
22	—	54·1		7·8		−·0024	+·0015	—	+ 4·6	−·0019
26	—	53·5		7·8		−·0026	+·0015	—	+ 4·8	−·0021
30	—	54·8		7·8		−·0023	+·0015	—	+ 4·5	−·0018
34	—	55·0		8·0		−·0023	+·0016	—	+ 4·6	−·0018
38	—	55·0		8·0		−·0023	+·0016	—	+ 4·6	−·0018
42	—	55·6		8·0		−·0022	+·0016	—	+ 4·5	−·0017
46	—	55·9		8·0		−·0021	+·0016	—	+ 4·2	−·0016
50	—	55·8		8·4		−·0022	+·0018	—	+ 4·7	−·0017
54	—	55·1		8·4		−·0023	+·0018	—	+ 4·8	−·0018
58	—	55·1		7·9		−·0023	+·0015	—	+ 4·5	−·0018
2 00 02	—	54·3	60·8	7·9	60·6	−·0024	+·0015	—	+ 4·6	−·0019
06	—	54·7		8·5		−·0024	+·0019	—	+ 4·9	−·0018
10	—	55·0		7·9		−·0023	+·0015	—	+ 4·5	−·0018
14	—	56·0		7·9		−·0021	+·0014	—	+ 4·1	−·0016
18	—	56·5		7·9		−·0020	+·0014	—	+ 4·0	−·0015
22	—	56·1		8·4		−·0021	+·0018	—	+ 4·6	−·0016
26	—	55·7		8·3		−·0022	+·0017	—	+ 4·6	−·0017
30	—	54·8		7·7		−·0023	+·0013	—	+ 4·2	−·0018
34	—	52·9		7·7		−·0027	+·0012	—	+ 4 6	−·0022
38	—	50·8		7·7		−·0031	+·0012	—	+ 4·9	−·0025
42	—	49·7		8·1		−·0033	+·0015	—	+ 5·7	−·0026
46	—	49·1		8·4		−·0034	+·0017	—	+ 6·0	−·0027
50	—	49·6		7·8		−·0033	+·0013	—	+ 5·4	−·0027
54	—	47·9		7·8		−·0036	+·0012	—	+ 5·7	−·0029
58	—	47·7		7·8		−·0037	+·0012	—	+ 5·8	−·0030
01 02	—	47·3	61·1	7·8	61·0	−·0037	+·0012	—	+ 5·8	−·0030
06	—	48·0		7·8		−·0036	+·0012	—	+ 5·7	−·0029
10	—	49·0		7·8		−·0034	+·0012	—	+ 5·4	−·0028
18	—	50·5		9·2		−·0031	+·0021	—	+ 6·1	−·0024
22	—	50·5		9·2		−·0030	+·0021	—	+ 6·0	−·0023
26	—	50·7		9·2		−·0030	+·0021	—	+ 6·0	−·0023
30	—	52·0		8·8		−·0027	+·0018	—	+ 5·3	−·0021
34	—	52·0		8·8		−·0027	+·0018	—	+ 5·3	−·0021
38	—	53·4		8·8		−·0025	+·0018	—	+ 4·9	−·0019
42	—	53·6		9·5		−·0024	+·0022	—	+ 5·4	−·0018
46	—	54·7		9·5		−·0022	+·0022	—	+ 5·2	−·0016
50	—	55·4		9·5		−·0020	+·0022	—	+ 4·9	−·0014
54	—	55·8		9·2		−·0019	+·0020	—	+ 4·6	−·0014
58	—	55·0		9·2		−·0021	+·0020	—	+ 4·8	−·0016
02 02	—	54·7	61·6	8·8	61·4	−·0021	+·0017	—	+ 4·5	−·0016
06	—	54·0		8·9		−·0022	+·0018	—	+ 4·7	−·0017
10	—	51·4		9·1		−·0027	+·0019	—	+ 5·4	−·0021
14	—	50·6		9·0		−·0029	+·0018	—	+ 5·4	−·0023
18	—	51·6		9·1		−·0026	+·0019	—	+ 5·3	−·0020
22	—	53·0		9·2		−·0024	+·0020	—	+ 5·2	−·0018
26	—	52·0		9·2		−·0025	+·0020	—	+ 5·3	−·0019
30	—	52·4		9·2		−·0024	+·0020	—	+ 5·2	−·0018
34	—	53·0		9·2		−·0023	+·0020	—	+ 4·9	−·0017

1842.
St. Helena.

July 2.

OBSERVATIONS OF THE MAGNETOMETERS. The Vertical Force was observed 2m. after the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta \psi$	$\Delta \theta$	$\frac{\Delta \phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
2 02 38	—	53·0		9·3		−·0023	+·0020	—	+ 4·9	−·0017
42	—	53·5		9·3		−·0021	+·0020	—	+ 4·8	−·0016
46	—	52·9		9·3		−·0022	+·0020	—	+ 4·9	−·0016
50	—	52·9		9·6		−·0022	+·0022	—	+ 5·2	−·0016
54	—	53·7		9·6		−·0020	+·0022	—	+ 4·9	−·0014
58	—	52·6		9·6		−·0022	+·0022	—	+ 5·2	−·0016
03 02	—	53·9	62·1	9·6	61·8	−·0020	+·0022	—	+ 4·9	−·0014
06	—	55·0		9·6		−·0017	+·0022	—	+ 4·6	−·0012
10	—	54·8		9·6		−·0018	+·0022	—	+ 4·7	−·0013
14	—	55·7		9·6		−·0016	+·0022	—	+ 4·5	−·0011
18	—	56·1		9·6		−·0015	+·0022	—	+ 4·2	−·0010
22	—	57·6		9·6		−·0012	+·0022	—	+ 4·0	−·0007
26	—	60·9		9·6		−·0005	+·0022	—	+ 3·2	−·0001
30	—	61·9		9·7		−·0003	+·0022	—	+ 2·8	·0000
34	—	60·9		9·7		−·0005	+·0022	—	+ 3·2	−·0001
38	—	61·2		9·5		−·0004	+·0021	—	+ 2·8	−·0001
42	—	59·8		9·1		−·0007	+·0018	—	+ 2·8	−·0004
46	—	55·0		9·1		−·0015	+·0018	—	+ 3·9	−·0011
50	—	53·7		9·1		−·0018	+·0018	—	+ 4·2	−·0013
54	—	53·0		9·2		−·0019	+·0019	—	+ 4·5	−·0014
58	—	53·0		9·4		−·0019	+·0020	—	+ 4·6	−·0014
04 02	—	52·9	62·1	9·3	62·1	−·0019	+·0020	—	+ 4·6	−·0014
06	—	53·3		9·3		−·0018	+·0020	—	+ 4·5	−·0013
10	—	53·6		9·3		−·0017	+·0020	—	+ 4·2	−·0012
14	—	53·2		9·3		−·0018	+·0020	—	+ 4·5	−·0013
18	—	53·1		9·3		−·0018	+·0020	—	+ 4·5	−·0013
22	—	53·1		9·3		−·0018	+·0020	—	+ 4·5	−·0013
26	—	53·1		9·3		−·0017	+·0020	—	+ 4·2	−·0012
30	—	55·7		9·3		−·0012	+·0020	—	+ 3·8	−·0008
34	—	56·1		9·3		−·0011	+·0020	—	+ 3·5	−·0007
38	—	55·1		9·3		−·0013	+·0019	—	+ 3·8	−·0009
42	—	57·0		9·3		−·0009	+·0019	—	+ 3·3	−·0005
46	—	56·5		9·3		−·0010	+·0019	—	+ 3·4	−·0006
50	—	56·0		9·2		−·0011	+·0018	—	+ 3·4	−·0007
54	—	56·0		9·2		−·0011	+·0018	—	+ 3·4	−·0007
58	—	55·9		9·1		−·0011	+·0018	—	+ 3·4	−·0007
05 02	—	54·1	62·0	9·0	62·2	−·0014	+·0017	—	+ 3·5	−·0010
06	—	54·9		9·0		−·0012	+·0017	—	+ 3·4	−·0008
10	—	54·0		9·0		−·0014	+·0017	—	+ 3·5	−·0010
14	—	53·7		9·0		−·0014	+·0017	—	+ 3·5	−·0010
18	—	53·0		9·0		−·0015	+·0017	—	+ 3·8	−·0011
22	—	53·0		9·0		−·0015	+·0017	—	+ 3·8	−·0011
26	—	51·7		9·0		−·0018	+·0017	—	+ 4·1	−·0013
30	—	50·9		9·0		−·0019	+·0017	—	+ 4·2	−·0014
34	—	50·1		8·6		−·0020	+·0014	—	+ 4·0	−·0015
42	—	49·0		8·6		−·0022	+·0014	—	+ 4·2	−·0017
46	—	47·1		8·6		−·0025	+·0014	—	+ 4·6	−·0020
50	—	46·8		8·6		−·0026	+·0014	—	+ 4·7	−·0021
54	—	45·8		8·6		−·0027	+·0014	—	+ 4·8	−·0022
58	—	45·0		8·6		−·0029	+·0014	—	+ 4·9	−·0023
06 02	—	44·0	62·6	8·6	62·2	−·0030	+·0014	—	+ 5·2	−·0024
06	—	42·2		8·4		−·0034	+·0013	—	+ 5·4	−·0028
10	—	41·1		8·4		−·0036	+·0013	—	+ 5·8	−·0029
14	—	40·3		8·4		−·0037	+·0013	—	+ 5·9	−·0030
18	—	39·8		8·4		−·0038	+·0013	—	+ 6·0	−·0031
22	—	39·9		8·2		−·0038	+·0011	—	+ 5·8	−·0031
26	—	40·0		8·0		−·0038	+·0010	—	+ 5·7	−·0031
30	—	38·9		8·0		−·0040	+·0010	—	+ 5·9	−·0033
34	—	38·1		8·0		−·0041	+·0010	—	+ 6·0	−·0034
38	—	37·9		8·0		−·0041	+·0010	—	+ 6·0	−·0034
42	—	38·9		8·0		−·0040	+·0010	—	+ 5·9	−·0033
46	—	41·7		8·0		−·0034	+·0010	—	+ 5·2	−·0028
50	—	43·6		8·0		−·0030	+·0010	—	+ 4·7	−·0025

1842.
St. Helena.
July 2.

OBSERVATIONS OF THE MAGNETOMETERS. The Vertical Force was observed 2m. after the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
2 06 54	—	45·0		7·8		−·0028	+·0008	—	+ 4·2	−·0023
58	—	46·8		7·8		−·0024	+·0008	—	+ 3·8	−·0020
07 02	—	48·0	62·3	7·8	62·2	−·0022	+·0008	—	+ 3·5	−·0018
06	—	48·1		7·8		−·0022	+·0008	—	+ 3·5	−·0018
10	—	48·0		7·8		−·0022	+·0008	—	+ 3·5	−·0018
14	—	46·2		8·0		−·0025	+·0010	—	+ 4·1	−·0020
18	—	44·8		8·0		−·0028	+·0010	—	+ 4·5	−·0023
22	—	43·7		8·1		−·0030	+·0011	—	+ 4·8	−·0025
26	—	43·4		8·1		−·0030	+·0011	—	+ 4·8	−·0025
30	—	43·0		8·1		−·0031	+·0011	—	+ 4·9	−·0025
34	—	42·4		8·0		−·0032	+·0010	—	+ 4·9	−·0026
38	—	42·0		8·0		−·0033	+·0010	—	+ 4·9	−·0027
42	—	41·2		8·0		−·0034	+·0010	—	+ 5·2	−·0028
46	—	40·8		8·0		−·0035	+·0010	—	+ 5·3	−·0029
50	—	40·2		7·9		−·0036	+·0009	—	+ 5·3	−·0030
54	—	40·1		7·9		−·0036	+·0009	—	+ 5·3	−·0030
58	—	40·2		7·9		−·0036	+·0009	—	+ 5·3	−·0030
08 02	—	40·0	62·0	7·9	62·1	−·0036	+·0009	—	+ 5·3	−·0030
06	—	40·0		8·0		−·0036	+·0010	—	+ 5·4	−·0030
10	—	39·8		8·0		−·0036	+·0010	—	+ 5·4	−·0030
14	—	39·7		8·0		−·0037	+·0010	—	+ 5·4	−·0031
18	—	40·0		7·9		−·0036	+·0009	—	+ 5·3	−·0030
22	—	40·0		7·8		−·0036	+·0008	—	+ 5·2	−·0030
26	—	39·4		7·8		−·0037	+·0008	—	+ 5·2	−·0031
30	—	39·0		7·8		−·0038	+·0008	—	+ 5·4	−·0032
34	—	38·5		7·8		−·0039	+·0008	—	+ 5·4	−·0033
38	—	38·2		7·8		−·0039	+·0008	—	+ 5·4	−·0033
42	—	38·0		7·8		−·0039	+·0008	—	+ 5·4	−·0033
46	—	38·0		7·9		−·0039	+·0009	—	+ 5·7	−·0032
50	—	38·2		7·9		−·0039	+·0009	—	+ 5·7	−·0032
54	—	38·8		7·8		−·0038	+·0008	—	+ 5·4	−·0032
58	—	40·8		7·6		−·0034	+·0007	—	+ 4·8	−·0029
09 02	—	39·8	62·0	7·3	62·0	−·0036	+·0005	—	+ 4·8	−·0031
06	—	38·0		7·3		−·0039	+·0005	—	+ 5·2	−·0033
10	—	37·9		7·3		−·0039	+·0005	—	+ 5·2	−·0033
14	—	37·9		7·1		−·0039	+·0004	—	+ 4·9	−·0033
18	—	38·1		7·1		−·0039	+·0004	—	+ 4·9	−·0033
22	—	38·7		7·2		−·0038	+·0004	—	+ 4·9	−·0032
26	—	38·7		7·4		−·0037	+·0006	—	+ 4·9	−·0031
30	—	38·7		7·4		−·0037	+·0006	—	+ 4·9	−·0031
34	—	38·1		7·4		−·0039	+·0006	—	+ 5·3	−·0033
38	—	38·0		7·5		−·0039	+·0007	—	+ 5·4	−·0033
42	—	38·0		7·5		−·0039	+·0007	—	+ 5·4	−·0033
46	—	37·8		7·5		−·0039	+·0007	—	+ 5·4	−·0033
50	—	37·8		7·5		−·0039	+·0007	—	+ 5·4	−·0033
54	—	37·7		7·8		−·0039	+·0009	—	+ 5·7	−·0032
58	—	37·7		7·8		−·0039	+·0009	—	+ 5·7	−·0032
10 02	—	37·2	62·0	7·8	61·8	−·0040	+·0009	—	+ 5·8	−·0033
10	—	38·1		8·2		−·0039	+·0012	—	+ 6·0	−·0032
14	—	41·0		8·2		−·0034	+·0012	—	+ 5·4	−·0028
18	—	42·5		8·2		−·0031	+·0012	—	+ 4·9	−·0025
22	—	43·9		8·2		−·0029	+·0012	—	+ 4·8	−·0024
26	—	45·3		8·2		−·0027	+·0012	—	+ 4·6	−·0022
30	—	46·0		8·2		−·0026	+·0012	—	+ 4·5	−·0021
34	—	45·9		8·2		−·0027	+·0012	—	+ 4·6	−·0022
38	—	45·2		7·8		−·0028	+·0010	—	+ 4·5	−·0023
42	—	45·0		7·8		−·0029	+·0010	—	+ 4·6	−·0024
46	—	44·9		7·8		−·0030	+·0010	—	+ 4·7	−·0025
50	—	44·1		7·9		−·0032	+·0011	—	+ 4·9	−·0026
54	—	43·1		7·9		−·0034	+·0011	—	+ 5·3	−·0028
58	—	43·1		8·3		−·0034	+·0013	—	+ 5·4	−·0028

1842. St. Helena. July 2.

OBSERVATIONS OF THE MAGNETOMETERS. The Vertical Force was observed 2m. after the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
2 11 02	—	43·1	60·2	8·3	61·8	−·0035	+·0013	—	+ 5·7	−·0028
06	—	43·1		8·3		−·0034	+·0013	—	+ 5·4	−·0028
10	—	43·8		8·3		−·0033	+·0013	—	+ 5·4	−·0027
14	—	44·0		8·3		−·0032	+·0013	—	+ 5·3	−·0026
18	—	44·3		8·3		−·0031	+·0014	—	+ 5·3	−·0025
22	—	44·7		8·3		−·0030	+·0014	—	+ 5·2	−·0024
26	—	44·7		8·0		−·0030	+·0012	—	+ 4·9	−·0024
30	—	44·7		8·0		−·0030	+·0012	—	+ 4·9	−·0024
34	—	44·9		8·0		−·0029	+·0012	—	+ 4·8	−·0024
38	—	46·4		8·0		−·0026	+·0012	—	+ 4·5	−·0021
42	—	49·4		8·0		−·0020	+·0012	—	+ 3·8	−·0016
46	—	51·8		8·0		−·0015	+·0012	—	+ 3·2	−·0011
50	—	53·0		8·0		−·0013	+·0013	—	+ 3·1	−·0009
54	—	53·3		8·0		−·0012	+·0013	—	+ 2·8	−·0009
58	—	53·0		8·0		−·0012	+·0013	—	+ 2·8	−·0009
12 02	—	52·4	61·9	8·0	61·7	−·0013	+·0013	—	+ 3·1	−·0009
06	—	51·8		8·5		−·0014	+·0016	—	+ 3·5	−·0010
10	—	51·1		8·5		−·0015	+·0016	—	+ 3·5	−·0011
14	—	50·8		8·1		−·0016	+·0014	—	+ 3·5	−·0012
18	—	50·7		8·1		−·0016	+·0014	—	+ 3·5	−·0012
22	—	50·8		8·1		−·0016	+·0014	—	+ 3·5	−·0012
26	—	51·0		8·1		−·0016	+·0014	—	+ 3·5	−·0012
30	—	52·2		8·1		−·0014	+·0014	—	+ 3·3	−·0010
34	—	53·2		8·1		−·0012	+·0015	—	+ 3·2	−·0008
38	—	53·6		8·1		−·0011	+·0015	—	+ 3·1	−·0007
42	—	53·7		8·1		−·0011	+·0015	—	+ 3·1	−·0007
46	—	53·3		8·1		−·0012	+·0015	—	+ 3·2	−·0008
50	—	53·4		8·1		−·0011	+·0015	—	+ 3·1	−·0007
54	—	53·6		8·1		−·0011	+·0015	—	+ 3·1	−·0007
58	—	52·1		8·1		−·0014	+·0015	—	+ 3·4	−·0010

1842. Van Diemen Island. July 3. For Mean Monthly Readings, *see* page 84.

VAN DIEMEN ISLAND, 1842. JULY 3—4.

3 13 02(a)	76·6	17·5	54·0	89·6	53·2	−·0060	+·0020	+ 3·0	+ 8·6	+·0011
12	78·8	9·0		104·4		−·0070	+·0026	+ 4·6	+10·3	+·0015
18	80·4	2·8		105·9		−·0076	+·0027	+ 5·6	+11·1	+·0016
24	80·9	0·8		104·1		−·0078	+·0026	+ 5·9	+11·2	+·0015
30	79·5	− 3·6(b)		103·5		−·0075	+·0026	+ 4·9	+10·9	+·0015
36	78·5	− 2·6(b)		104·6		−·0075	+·0026	+ 4·2	+10·9	+·0015
42	79·4	− 6·6(b)		103·0		−·0070	+·0026	+ 4·7	+10·3	+·0015
48	79·5	− 7·9(b)		101·2		−·0068	+·0025	+ 4·7	+10·0	+·0015
56	79·4	−15·2(b)		102·8		−·0059	+·0026	+ 4·7	+ 9·0	+·0017
14 02	75·2	− 3·3(b)	54·1	98·6	54·2	−·0073	+·0024	+ 1·5	+10·3	+·0013
08	72·9	1·0		85·0		−·0075	+·0019	− 0·1	+10·1	+·0009
14	74·1	11·3		78·3		−·0062	+·0017	+ 0·6	+ 8·5	+·0008
20	75·4	12·3		80·5		−·0061	+·0018	+ 1·4	+ 8·5	+·0009
26	80·0	2·5		80·5		−·0072	+·0018	+ 4·6	+ 9·7	+·0008
32	76·9	6·0		82·9		−·0067	+·0019	+ 2·2	+ 9·3	+·0010
38	77·1	3·1		83·2		−·0071	+·0019	+ 2·3	+ 9·7	+·0009
44	75·7	6·5		80·6		−·0066	+·0018	+ 1·2	+ 9·0	+·0009
50	75·8	4·1		82·3		−·0069	+·0019	+ 1·2	+ 9·5	+·0009
56	77·8	7·9		88·5		−·0064	+·0021	+ 2·5	+ 9·0	+·0012
15 02	80·0	3·2	54·8	88·5	54·6	−·0069	+·0022	+ 4·0	+ 9·8	+·0012
08	75·5	8·0		86·8		−·0064	+·0021	+ 0·6	+ 9·0	+·0012
14	74·9	14·8		87·9		−·0055	+·0021	+ 0·1	+ 8·2	+·0013
20	77·4	16·4		90·2		−·0054	+·0022	+ 1·8	+ 8·2	+·0014
46	79·8	10·1		94·0		−·0061	+·0023	+ 3·4	+ 9·0	+·0014
32	73·9	4·9		100·2		−·0068	+·0026	− 0·9	+10·1	+·0016
38	77·9	7·5		109·8		−·0065	+·0029	+ 1·8	+10·1	+·0019
44	81·5	14·3		108·6		−·0057	+ 0028	+ 4·3	+ 9·0	+·0019
50	74·6	22·2		110·2		−·0047	+·0029	− 0·8	+ 8·2	+·0021
56	77·0	11·8		115·0		−·0060	+·0031	+ 0·8	+ 9·8	+·0021

(a) The Declination was observed 2m. before, and the V. F. 2m. after the times specified. (b) These readings have the − sign properly prefixed.

1842.
Van Diemen Island.

July 3.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 2m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm.	Sc. Div.	Therm.	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
3 16 02	72·2	5·9	55·0	115·0	55·0	−·0067	+·0031	− 2·7	+10·6	+·0020
08	77·1	4·1		122·3		−·0070	+·0033	+ 0·7	+11·1	+·0022
14	70·4	6·2		125·5		−·0067	+·0034	− 4·2	+10·9	+·0023
20	75·5	10·8		123·9		−·0062	+·0034	− 0·6	+10·3	+·0023
26	76·1	9·6		122·5		−·0063	+·0033	− 0·3	+10·3	+·0022
32	74·1	11·7		117·2		−·0061	+·0031	− 1·8	+ 9·9	+·0021
38	70·4	15·8		114·0		−·0056	+·0030	− 4·5	+ 9·3	+·0021
44	68·9	14·8		110·1		−·0058	+·0028	− 5·6	+ 9·3	+·0019
50	69·9	21·9		107·3		−·0049	+·0027	− 5·1	+ 8·2	+·0019
56	73·6	18·1		107·3		−·0054	+·0027	− 2·5	+ 8·7	+·0018
17 02	78·5	26·2	54·6	107·3	55·0	−·0044	+·0027	+ 0·9	+ 7·6	+·0019
08	82·6(a)	—		—		—	—	+ 3·9	—	—
12	79·0	19·0		113·1		−·0054	+·0029	+ 1·2	+ 8·9	+·0020
18	80·5	21·1		117·2		−·0051	+·0031	+ 2·2	+ 8·8	+·0022
24	81·7	16·2		120·9		−·0057	+·0032	+ 3·0	+ 9·6	+·0022
30	77·5	33·8		126·2		−·0036	+·0034	+ 0·1	+ 7·5	+·0026
36	89·5	24·1		116·8		−·0048	+·0031	+ 8·6	+ 8·5	+·0022
42	77·6	22·7		119·1		−·0050	+·0031	+ 0·1	+ 8·7	+·0022
48	76·5	20·6		115·9		−·0053	+·0030	− 0·7	+ 8·9	+·0021
54	80·0	11·4		122·8		−·0064	+·0033	+ 1·7	+10·3	+·0022
18 02	74·7	20·1	54·2	122·8	55·0	−·0054	+·0033	− 2·0	+ 9·4	+·0023
08	84·1	28·6		128·5		−·0044	+·0035	+ 4·7	+ 8 5	+·0026
14	92·5	—		—		—	—	+10·7	—	—
20	90·2	—		—		—	—	+ 9·1	—	—
26	87·0	—		—		—	—	+ 6·8	—	—
32	84·3	—		—		—	—	+ 5·0	—	—
38	91·2	22·2		131·7		−·0052	+·0036	+ 9·9	+ 9·5	+·0026
44	89·2	24·0		127·8		−·0050	+·0035	+ 8·5	+ 9·0	+·0026
50	91·2	29·5		124·9		−·0044	+·0034	+10·0	+ 8·4	+·0025
19 02	93·9	38·1	53·9	116·9	54·9	−·0034	+·0031	+12·0	+ 7·0	+·0024
12	88·3	23·7		108·7		−·0052	+·0027	+ 8·2	+ 8·5	+·0018
18	64·8	25·1		104·5		−·0050	+·0026	− 8·4	+ 8·2	+·0018
24	59·1	36·3		95·4		−·0037	+·0022	−12·5	+ 6·4	+·0015
30	70·8	38·6		99·2		−·0035	+·0024	− 4·0	+ 6·4	+·0017
36	82·8	31·2		95·2		−·0044	+·0022	+ 4·7	+ 7·1	+·0015
42	78·5	30·4		95·2		−·0045	+·0022	+ 1·6	+ 7·2	+·0015
48	76·2	29·8		96·9		−·0046	+·0023	+ 0·1	+ 7·4	+·0015
54	77·0	33·6		94·1		−·0042	+·0022	+ 0·7	+ 6·9	+·0015
20 00	81·4	30·7	53·5	90·1	54·8	−·0045	+·0020	+ 4·0	+ 7·0	+·0013
06	75·5	34·3		91·2		−·0041	+·0021	− 0·1	+ 6·7	+·0014
12	78·5	35·0		89·6		−·0040	+·0020	+ 2·0	+ 6·5	+·0013
18	77·7	35·0		89·0		−·0041	+·0020	+ 1·6	+ 6·6	+·0013
24	78·1	29·7		91·7		−·0047	+·0021	+ 2·0	+ 7·3	+·0014
30	77·3	28·1		92·9		−·0049	+·0021	+ 1·5	+ 7·5	+·0013
36	74·1	32·2		91·3		−·0044	+·0021	− 0·6	+ 7·0	+·0014
42	72·1	35·5		88·3		−·0040	+·0019	− 1·9	+ 6·4	+·0012
48	73·1	39·8		85·5		−·0035	+·0018	− 1·1	+ 5·7	+·0012
54	70·5	47·8		67·3		−·0026	+·0011	− 2 8	+ 4·0	+·0007
21 02	50·9	75·7	53·2	67·7	54·4	−·0036	+·0012	−16·7	+ 5·2	+·0007
06	42·3	81·2		26·0		+·0014	−·0004	−22·8	− 1·9	−·0002
12	50·4	82·9		19·7		+·0016	−·0007	−17·0	− 2·5	−·0004
18	55·5	74·8		18·0		+·0006	−·0008	−13·4	− 1·5	−·0007
24	60·0	74·9		37·5		+·0006	·0000	−10·1	− 0·7	+·0001
30	74·7	51·0		45·6		−·0022	+·0003	+ 0·3	+ 2·7	·0000
36	70·9	42·1		56·3		−·0033	+·0007	− 2·4	+ 4·3	+·0003
42	67·9	39·0		70·3		−·0037	+·0012	− 4·6	+ 5·3	+·0007
48	67·6	48·3		73·4		−·0026	+·0013	− 4·7	+ 4·2	+·0009
54	71·0	46·3		68 5		−·0028	+·0011	− 2·2	+ 4·2	+·0007
22 02	72·9	36·8	52·8	70·9	54·0	−·0040	+·0012	− 0·9	+ 5·6	+·0006
08	71·1	36·6		81·5		−·0040	+·0016	− 2·0	+ 6·0	+·0010
14	76·1	32·6		92·8		−·0045	+·0020	+ 1·7	+ 7·0	+·0013
20	74·6	27·0		85·1		−·0052	+·0017	+ 0·8	+ 7·4	+·0009

(a) Observed at 4m.

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OBSERVATIONS OF THE MAGNETOMETERS. The Declination was observed 2m. before, and the V. F. 2m. after the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
3 22 26	70·0	29·2		89·5		−·0049	+·0019	− 2·2	+ 7·3	+·0012
32	71·7	29·9		92·0		−·0048	+·0020	− 0·8	+ 7·3	+·0013
38	71·5	31·1		94·1		−·0046	+·0020	− 0·8	+ 7·1	+·0013
44	72·7	36·2		85·1		−·0040	+·0017	+ 0·2	+ 6·0	+·0011
50	69·9	31·5		83·1		−·0046	+·0016	− 1·6	+ 6·7	+·0009
56	63·6	43·5		61·7		−·0031	+·0008	− 5·9	+ 4·2	+·0004
23 02	60·5	64·3	52.4	61·7	53·5	−·0006	+·0008	− 7·9	+ 1·5	+·0007
08	61·5	71·2		42·3		+·0002	·0000	− 7·2	− 0·2	·0000
14	61·5	83·1		36·4		+·0016	−·0002	− 7·2	− 1·9	·0000
20	70·1	81·0		29·3		+·0014	−·0005	− 1·1	− 1·9	−·0003
26	69·7	58·9		31·4		−·0013	−·0004	− 1·3	+ 1·0	−·0005
32	55·9	50·0		41·4		−·0024	−·0001	−11·1	+ 2·5	−·0004
38	50·5	64·3		43·8		−·0007	·0000	−14·9	+ 0·8	−·0001
44	55·0	64·7		42·4		−·0006	−·0001	−11·7	+ 0·4	−·0002
50	57·2	60·1		44·6		−·0012	·0000	−10·0	+ 1·3	−·0001
4 00 02	52·4	43·2	52·0	47·8	53·0	−·0032	+·0001	−13·4	+ 3·6	−·0003
08	53·7	52·3		64·3		−·0021	+·0007	−12·6	+ 3·0	+·0004
14	62·0	53·0		64·3		−·0021	+·0007	− 6·7	+ 3.0	+·0004
20	63·1	51·2		63·2		−·0023	+·0007	− 6·0	+ 3·2	+·0004
26	60·2	51·6		62·7		−·0022	+·0007	− 8·0	+ 3·1	+·0004
32	61·1	52·3		63·3		−·0021	+·0007	− 7·5	+ 3·0	+·0004
38	63·8	50·0		65·7		−·0024	+·0008	− 5·6	+ 3·5	+·0005
44	61·1	42·9		66·0		−·0033	+·0008	− 7·5	+ 4·4	+·0003
50	59·8	43·6		69·6		−·0032	+·0009	− 8·5	+ 4·4	+·0004
01 02	60·5	46·6	51·8	70·3	53·0	−·0028	+·0010	− 8·1	+ 4·1	+·0006
08	59·1	—		—		—	—	− 9·1	—	—
12.	64·4	42·2		74·2		−·0034	+·0011	− 5·4	+ 4·7	+·0006
18	64·7	41·0		72·2		−·0036	+·0011	− 5·3	+ 5·1	+·0006
24	61·1	40·9		73·6		−·0036	+·0011	− 7·8	+ 5·1	+·0006
30	50·8	40·4		56·5		−·0037	+·0005	−15·2	+ 4·5	·0000
36	45·4	60·5		48·2		−·0013	+·0002	−19·1	+ 1·6	·0000
42	37·6	84·0		29·6		+·0016	−·0006	−24·6	− 2·4	−·0004
48	50·5	107·9		23·2		+·0044	−·0008	−15·5	− 5·6	−·0002
54	71·3	89·7		27·0		+·0022	−·0006	− 0·8	− 3·0	−·0003
02 02	76·3	59·9	51·5	31·7	53·0	−·0014	−·0005	+ 2·7	+ 1·0	−·0006
06	62·0	60·4		44·3		−·0013	·0000	− 7·4	+ 1·4	−·0001
12	64·8	58·8		47·5		−·0015	+·0001	− 5·4	+ 1·7	−·0001
18	58·9	49·9		47·4		−·0026	+·0001	− 9·5	+ 2·9	−·0002
24	51·7	44·9		54·7		−·0032	+·0004	−14·6	+ 3·9	·0000
30	50·8	53·7		59·0		−·0021	+·0006	−15·3	+ 2·9	+·0003
36	54·0	53·3		62·4		−·0021	+·0007	−13·0	+ 3·0	+·0004
42	56·2	52·7		63·9		−·0022	+·0007	−11·5	+ 3·1	+·0004
48	58·0	52·2		64·1		−·0023	+·0008	−10·0	+ 3·2	+·0005
54	62·0	49·1		67·3		−·0026	+·0009	− 7·2	+ 3·8	+·0005
03 02	64·0	47·0	51·3	66·6	52·3	−·0029	+·0009	− 5·8	+ 4·1	+·0005
12	63·5	51·5		68·6		−·0024	+·0009	− 6·3	+ 3·6	+·0005
18	65·5	59·4		63·1		−·0015	+·0006	− 5·0	+ 2·3	+·0004
24	64·7	66·2		57·7		−·0007	+·0004	− 5·6	+ 1·2	+·0003
30	68·4	74·7		49·5		+·0003	·0000	− 3·0	− 0·3	·0000
36	67·9	73·3		46·3		+·0001	−·0001	− 3·4	− 0·2	−·0001
42	72·0	72·8		45·1		·0000	−·0002	− 0·6	− 0·2	−·0002
48	71·8	66·5		45·6		−·0007	−·0002	− 0·8	+ 0·4	−·0003
54	67·7	64·3		48·4		−·0010	−·0001	− 3·8	+ 1·0	−·0002
04 02	62·1	63·7	51·0	46·7	51·5	−·0011	−·0002	− 7·8	+ 1·0	−·0003
08	61·6	63·8		49·1		−·0011	−·0001	− 8·2	+ 1·1	−·0002
14	62·8	61·1		47·9		−·0014	−·0002	− 7·4	+ 1·3	−·0003
20	60·0	59·6		48·7		−·0016	−·0002	− 9·4	+ 1·5	−·0003
26	58·5	61·9		48·4		−·0013	−·0002	−10·5	+ 1·2	−·0003
32	59·3	60·5		49·4		−·0015	−·0001	−10·0	+ 1·5	−·0002
38	60·1	63·2		47·0		−·0012	−·0002	− 9·5	+ 1·1	−·0003
44	59·8	62·3		46·6		−·0013	−·0003	− 9·7	+ 1·1	−·0004

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OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 2m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
4 04 50	62·1	58·4		50·4		− 0018	−·0001	− 8·2	+ 1·8	−·0003
56	62·7	57·0		53·6		−·0019	·0000	− 7·7	+ 1·9	−·0002
05 02	62·5	57·2	51·0	53·6	51·2	−·0019	·0000	− 7·9	+ 2·0	−·0002
08	63·2	60·2		56·6		−·0016	+·0001	− 7·5	+ 1·8	−·0001
14	66·0	61·8		59·3		−·0014	+·0002	− 5·6	+ 1·7	·0000
20	70·0	61·1		59·3		−·0014	+·0002	− 2·7	+ 1·7	·0000
26	70·1	64·5		59·3		−·0010	+·0002	− 2·7	+ 1·3	+·0001
32	71·0	64·1		57·1		−·0011	+·0001	− 2·2	+ 1·3	·0000
38	71·8	62·7		57·1		−·0013	+·0001	− 1·6	+ 1·5	·0000
44	70·8	58·4		57·7		−·0018	+·0001	− 2·4	+ 1·9	−·0001
50	69·7	57·0		59·7		−·0019	+·0002	− 3·2	+ 2·3	·0000
06 02	69·9	55·4	51·0	57·2	50·8	−·0021	+·0001	− 3·2	+ 2·4	−·0001
08	70·7	53·9		60·0		−·0023	+·0002	− 2·6	+ 2·7	−·0001
14	72·2	53·1		60·0		−·0024	+·0002	− 1·5	+ 2·8	−·0001
20	72·4	52·7		65·8		−·0025	+·0005	− 1·4	+ 3·2	+·0002
26	73·8	52·9		66·4		−·0024	+·0005	− 0·4	+ 3·1	+·0002
32	75·7	53·0		66·4		−·0024	+·0005	+ 0·8	+ 3·1	+·0002
38	75·8	52·0		66·4		−·0025	+·0005	+ 0·9	+ 3·2	+·0002
44	75·1	52·5		62·3		−·0025	+·0003	+ 0·4	+ 3·0	·0000
50	75·0	52·8		68·2		−·0025	+·0005	+ 0·4	+ 3·2	+·0002
07 02	74·2	51·1	50·9	67·3	50·6	−·0027	+·0005	− 0·2	+ 3·5	+·0002
08	74·5	52·0		68·2		−·0025	+·0005	0·0	+ 3·2	+·0002
14	74·7	52·2		66·7		−·0025	+·0005	+ 0·1	+ 3·2	+·0002
20	75·0	52·1		66·9		−·0026	+·0005	+ 0·4	+ 3·2	+·0002
26	74·9	—		—		—	—	+ 0·3	—	—
08 02	75·4	54·0	50·8	67·8	50·4	−·0024	+·0005	+ 0·6	+ 3·1	+·0002

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For Mean Monthly Readings, *see* page 92.

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3 14 02	19·0	55·0	59·8	4·5	59·3	−·0015	−·0007	− 2·4	+ 0·9	−·0014
15 02	23·0	47·0	59·8	4·9	59·4	−·0030	−·0004	+ 0·4	+ 3·1	−·0026
08	22·0	47·0		5·1		−·0030	−·0002	− 0·4	+ 3·3	−·0026
14	20·9	48·0		5·1		−·0028	−·0002	− 1·1	+ 3·1	−·0024
20	21·5	49·0		5·1		−·0026	−·0002	− 0·7	+ 2·8	−·0023
26	22·0	51·5		5·1		−·0022	−·0002	− 0·4	+ 2·4	−·0019
32	22·7	51·9		5·0		−·0021	−·0002	+ 0·1	+ 2·1	−·0019
38	22·4	53·5		5·0		−·0018	−·0002	− 0·1	+ 1·9	−·0016
44	20·4	54·1		5·0		−·0017	−·0002	− 1·5	+ 1·8	−·0015
50	19·5	—		—		—	—	− 2·2	—	—
56	19·5	57·9		4·5		−·0011	−·0006	− 2·2	+ 0·6	−·0010
16 02	19·6	59·0	59·8	4·5	59·4	−·0009	−·0006	− 2·1	+ 0·4	−·0009
08	19·5	60·0		4·5		−·0007	−·0006	− 2·2	+ 0·1	−·0007
14	18·2	61·0		4·5		−·0005	−·0006	− 3·1	− 0·1	−·0005
20	19·0	61·2		4·5		−·0004	−·0006	− 2·5	− 0·2	−·0004
26	18·2	59·9		4·5		−·0007	−·0006	− 3·1	+ 0·1	−·0007
32	18·1	57·4		4·5		−·0012	−·0006	− 3·2	+ 0·7	−·0011
38	18·4	56·2		4·5		−·0014	−·0006	− 3·0	+ 0·9	−·0013
44	18·7	55·8		4·5		−·0015	−·0006	− 2·8	+ 0·9	−·0014
50	18·9	56·2		4·5		−·0014	−·0006	− 2·7	+ 0 9	−·0013
56	20·1	56·8		4·5		−·0013	−·0006	− 1·8	+ 0·8	−·0012
17 02	19·9	56·7	59·9	4·8	59·4	−·0013	−·0004	− 2·0	+ 0·9	−·0012
08	20·0	55·8		4·8		−·0015	−·0004	− 1·9	+ 1·3	−·0014
14	20·8	54·9		4·8		−·0016	−·0004	− 1·3	+ 1·4	−·0014
20	21·9	54·9		4·8		−·0016	−·0004	− 0·6	+ 1·4	−·0014
26	21·8	56·1		4·8		−·0014	−·0004	− 0·6	+ 1·2	−·0013
32	21·0	56·1		4·8		−·0014	−·0004	− 1·3	+ 1·2	−·0013
38	21·0	56·3		5·2		−·0014	−·0001	− 1·3	+ 1·4	−·0012
44	21·9	56·4		5·2		−·0014	−·0001	− 0·6	+ 1·4	−·0012
50	21·6	58·0		5·2		−·0011	−·0001	− 0·8	+ 1·2	−·0010
56	22·8	61·3		5·5		−·0004	+·0001	0·0	+ 0·6	−·0003

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OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 2m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
3 18 02	20·0	60·8	59·9	5·5	59·4	−·0005	+·0001	− 2·0	+ 0·7	−·0004
08	19·9	59·9		5·5		−·0007	+·0001	− 2·1	+ 0·9	−·0006
14	18·9	58·2		5·0		−·0010	−·0002	− 2·8	+ 0·9	−·0009
20	18·2	57·7		5·0		−·0011	−·0002	− 3·4	+ 0·9	−·0010
26	18·0	57·4		4·8		−·0012	−·0004	− 3·6	+ 0·9	−·0011
32	18·0	57·0		4·6		−·0012	−·0005	− 3·7	+ 0·8	−·0011
38	17·8	57·0		4·6		−·0012	−·0005	− 3·9	+ 0·8	−·0011
44	18·0	56·0		4·6		−·0012	−·0005	− 3·7	+ 0·8	−·0011
50	17·7	—		—		—	—	− 4·0	—	—
56	17·2	54·1		4·6		−·0018	−·0005	− 4·4	+ 1·4	−·0016
19 02	17·3	54·8	59·9	4·6	59·8	−·0016	−·0005	− 4·4	+ 1·3	−·0015
08	16·5	52·6		4·6		−·0021	−·0005	− 5·1	+ 1·9	−·0019
14	17·3	51·3		4·3		−·0023	−·0007	− 4·6	+ 1·9	−·0021
20	17·7	49·5		4·0		−·0027	−·0009	− 4·4	+ 2·1	−·0025
26	17·0	49·6		4·0		−·0027	−·0009	− 5·0	+ 2·1	−·0025
32	17·3	48·7		4·4		−·0028	−·0006	− 4·9	+ 2·6	−·0025
38	18·4	48·1		4·4		−·0029	−·0006	− 4·3	+ 2·7	−·0026
44	18·7	49·6		3·0		−·0027	−·0015	− 4·2	+ 1·4	−·0025
50	19·4	50·0		3·3		−·0026	−·0013	− 3·8	+ 1·4	−·0024
56	19·4	50·6		3·3		−·0025	−·0013	− 3·9	+ 1·4	−·0023
20 02	20·0	51·2	60·0	3·3	59·6	−·0024	−·0013	− 3·6	+ 1·3	−·0023
08	20·1	51·8		3·3		−·0023	−·0013	− 3·4	+ 1·2	−·0022
14	20·8	52·4		4·5		−·0022	−·0005	− 2·9	+ 2·0	−·0020
20	21·6	53·7		4·2		−·0020	−·0007	− 2·2	+ 1·4	−·0018
26	22·0	53·9		4·2		−·0019	−·0007	− 2·0	+ 1·4	−·0017
32	22·1	54·4		4·2		−·0019	−·0008	− 1·8	+ 1·3	−·0018
38	21·9	54·6		4·2		−·0018	−·0008	− 2·0	+ 1·2	−·0017
44	22·6	54·8		4·6		−·0018	−·0005	− 1·4	+ 1·4	−·0016
50	22·9	54·8		4·7		−·0018	−·0004	− 1·2	+ 1·7	−·0016
56	23·0	54·5		4·5		−·0019	−·0006	− 1·1	+ 1·4	−·0017
21 02	23·0	56·0	60·0	5·1	59·4	−·0016	−·0001	− 1·1	+ 1·8	−·0014
08	26·2	59·0		5·4		−·0011	+·0001	+ 1·3	+ 1·4	−·0009
14	26·7	59·8		5·4		−·0010	+·0001	+ 1·8	+ 1·3	−·0009
20	25·1	65·8		4·8		+·0001	−·0004	+ 0·7	− 0·6	·0000
26	27·2	67·4		8·3		+·0004	+·0021	+ 2·3	+ 2·0	+·0006
32	27·9	65·8		8·0		·0000	+·0018	+ 2·9	+ 2·1	+·0002
38	26·1	61·2		8·0		−·0009	+·0018	+ 1·7	+ 3·2	−·0005
44	23.5	61·2		8·0		−·0009	+·0018	0·0	+ 3·2	−·0005
50	23·2	62·2		8·4		−·0008	+·0021	− 0·1	+ 3·4	−·0004
56	23·1	64·8		8·4		−·0003	+·0021	− 0·1	+ 2·8	·0000
22 02	23·1	65·0	59·8	8·4	59·4	−·0003	+·0021	0·0	+ 2·8	·0000
08	23·0	63·9		8·4		−·0005	+·0021	0·0	+ 3·1	−·0001
14	22·9	63·4		8·2		−·0007	+·0020	− 0·1	+ 3·2	−·0003
20	22·1	64·3		8·2		−·0005	+·0019	− 0·6	+ 2·8	−·0002
26	22·5	64·1		8·2		−·0006	+·0019	− 0·2	+ 2·8	−·0003
32	22·9	64·0		8·2		−·0006	+·0019	+ 0·1	+ 2·8	−·0003
38	22·2	61·9		8·2		−·0010	+·0019	− 0·4	+ 3·4	−·0006
44	22·0	61·8		8·2		−·0011	+·0019	− 0·4	+ 3·5	−·0007
50	21·6	62·0		8·2		−·0010	+·0018	− 0·6	+ 3·3	−·0006
56	21·0	60·9		8·1		−·0013	+·0018	− 1·1	+ 3·5	−·0009
23 02	20·8	58·7	60·0	8·1	59·7	−·0017	+·0018	− 1·1	+ 4·1	−·0012
08	20·2	57·4		8·1		−·0020	+·0018	− 1·5	+ 4·5	−·0015
14	20·1	55·2		8·1		−·0024	+·0018	− 1·6	+ 4·9	−·0018
20	20·0	57·8		8·1		−·0019	+·0017	− 1·7	+ 4·2	−·0014
26	19·6	55·7		8·1		−·0023	+·0017	− 2·0	+ 4·7	−·0018
32	20·0	54·9		8·1		−·0025	+·0017	− 1·6	+ 4·9	−·0019
38	19·9	53·9		8·1		−·0026	+·0017	− 1·7	+ 4·9	−·0020
44	20·2	55·1		8·1		−·0024	+·0017	− 1·5	+ 4·8	−·0019
50	20·9	55·2		8·1		−·0024	+·0016	− 1·0	+ 4·7	−·0019
56	20·8	54·3		8·3		−·0026	+·0018	− 1·1	+ 5·2	−·0020
4 00 02	20·0	53·0	60·2	8·3	60·0	−·0029	+·0018	− 1·6	+ 5·4	−·0023
08	19·0	53·0		8·3		−·0028	+·0018	− 2·3	+ 5·4	−·0022

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St. Helena.

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OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 2m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
						$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
4 00 14	18·9	52·3		8·3		−·0030	+·0017	− 2·4	+ 5·4	−·0024
20	18·8	51·0		8·3		−·0032	+·0017	− 2·5	+ 5·8	−·0025
26	18·4	50·0		8·3		−·0034	+·0017	− 2·7	+ 6·0	−·0027
32	18·3	49·8		8·3		−·0034	+·0016	− 2·8	+ 5·9	−·0027
38	18·1	—		—		—	—	− 2·9	—	—
44	18·1	49·0		8·9		−·0036	+·0020	− 2·9	+ 6·6	−·0028
50	18·2	48·2		8·9		−·0037	+·0020	− 2·9	+ 6·7	−·0029
56	17·9	47·9		8·9		−·0038	+·0020	− 3·1	+ 6·8	−·0030
01 02	18·0	48·0	60·6	8·9	60·3	−·0037	+·0020	− 3·0	+ 6·7	−·0029
08	17·9	48·8		9·3		−·0036	+·0022	− 3·0	+ 6·8	−·0028
14	18·1	49·0		9·3		−·0035	+·0022	− 2·9	+ 6·7	−·0027
20	18·1	49·4		9·3		−·0034	+·0022	− 2·9	+ 6·6	−·0026
26	17·1	50·0		9·3		−·0033	+·0022	− 3·6	+ 6·5	−·0026
32	16·8	48·4		9·3		−·0036	+·0021	− 3·7	+ 6·7	−·0028
38	16·9	47·8		9·3		−·0037	+·0021	− 3·6	+ 6·8	−·0029
44	17·0	47·9		9·3		−·0037	+·0021	− 3·4	+ 6·8	−·0029
50	16·9	44·9		9·3		−·0042	+·0021	− 3·4	+ 7·4	−·0034
56	16·5	45·0		9·3		−·0042	+·0020	− 3·8	+ 7·3	−·0034
02 02	17·5	47·0	60·9	9·3	60·5	−·0038	+·0020	− 2·9	+ 6·8	−·0030
08	18·2	47·3		9·7		−·0037	+·0023	− 2·4	+ 7·1	−·0029
14	18·1	48·8		9·7		−·0034	+·0023	− 2·5	+ 6·7	−·0026
20	17·5	47·9		9·4		−·0036	+·0021	− 2·8	+ 6·7	−·0028
26	17·2	46·8		9·4		−·0038	+·0021	− 3·0	+ 6·8	−·0030
32	16·2	47·2		9·4		−·0037	+·0020	− 3·7	+ 6·7	−·0029
38	16·8	47·9		9·4		−·0035	+·0020	− 3·2	+ 6·5	−·0028
44	16·1	46·2		9·6		−·0038	+·0022	− 3·7	+ 7·1	−·0030
50	16·1	46·1		9·6		−·0038	+·0022	− 3·7	+ 7·1	−·0030
56	15·2	46·3		9·7		−·0038	+·0022	− 4·3	+ 7·1	−·0030
03 02	15·0	46·6	60·9	9·7	60·8	−·0037	+·0022	− 4·4	+ 6·8	−·0029
08	14·9	46·6		9·6		−·0037	+·0022	− 4·5	+ 6·8	−·0029
14	14·8	45·9		9·6		−·0037	+·0022	− 4·6	+ 6·8	−·0029
20	14·4	46·6		9·6		−·0036	+·0022	− 4·9	+ 6·8	−·0028
26	14·6	46·3		9·6		−·0036	+·0022	− 4·7	+ 6·8	−·0028
32	14·8	47·6		9·6		−·0033	+·0022	− 4·5	+ 6·5	−·0026
38	15·1	45·8		9·6		−·0036	+·0022	− 4·3	+ 6·8	−·0028
44	14·9	44·5		9·6		−·0038	+·0022	− 4·4	+ 7·1	−·0030
50	14·3	43·3		9·6		−·0041	+·0022	− 4·9	+ 7·4	−·0033
56	14·0	42·8		9·4		−·0041	+·0020	− 5·1	+ 7·2	−·0033
04 02	13·6	43·4	61·1	9·4	61·0	−·0040	+·0020	− 5·4	+ 7·1	−·0032
08	14·9	44·3		9·7		−·0038	+·0022	− 4·4	+ 7·1	−·0030
14	14·8	44·1		9·7		−·0038	+·0022	− 4·4	+ 7·1	−·0030
20	14·8	44·2		9·6		−·0037	+·0022	− 4·4	+ 6·8	−·0029
26	14·8	44·8		9·6		−·0036	+·0022	− 4·4	+ 6·8	−·0028
32	14·8	44·8		9·6		−·0036	+·0021	− 4·4	+ 6·7	−·0028
38	14·1	44·0		9·5		−·0037	+·0020	− 4·9	+ 6·7	−·0029
44	14·1	44·0		9·5		−·0037	+·0020	− 4·9	+ 6·7	−·0029
50	14·1	43·8		9·4		−·0037	+·0020	− 4·9	+ 6·7	−·0029
56	14·0	44·6		9·4		−·0035	+·0020	− 4·9	+ 6·5	−·0028
05 02	14·5	45·0	61·0	9·4	60·8	−·0034	+·0020	− 4·5	+ 6·4	−·0027
08	14·9	45·2		9·4		−·0034	+·0020	− 4·2	+ 6·4	−·0027
14	14·2	45·4		9·4		−·0033	+·0020	− 4·7	+ 6·1	−·0026
20	14·1	45·0		9·0		−·0034	+·0017	− 4·7	+ 6·0	−·0027
26	13·9	44·1		9·0		−·0035	+·0017	− 4·9	+ 6·1	−·0028
32	13·9	45·1		9·0		−·0033	+·0017	− 4·8	+ 5·9	−·0026
38	14·0	45·0		9·0		−·0033	+·0017	− 4·7	+ 5·9	−·0026
44	14·5	45·0		9·0		−·0033	+·0017	− 4·4	+ 5·9	−·0026
50	14·9	45·0		9·0		−·0033	+·0017	− 4·0	+ 5·9	−·0026
56	15·1	45·2		9·0		−·0033	+·0017	− 3·9	+ 5·9	−·0026
06 02	15·5	46·0	61·0	9·0	60·5	−·0031	+·0017	− 3·6	+ 5·7	−·0024
08	16·0	46·2		9·0		−·0030	+·0017	− 3·2	+ 5·4	−·0024
14	16·0	47·0		9·0		−·0029	+·0017	− 3·2	+ 5·4	−·0023
20	16·1	47·9		8·6		−·0027	+·0014	− 3·2	+ 4·8	−·0022

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OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 2m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
4 06 26	16·3	48·1		8·6		−·0026	+·0014	− 3·0	+ 4·7	−·0021
32	16·3	49·0		8·7		−·0025	+·0015	− 3·0	+ 4·7	−·0020
38	16·5	49·1		8·8		−·0024	+·0015	− 2·9	+ 4·6	−·0019
44	16·5	49·1		8·8		−·0024	+·0015	− 2·9	+ 4·6	−·0019
50	16·5	49·1		8·4		−·0024	+·0013	− 2·9	+ 4·2	−·0019
56	16·5	49·1		8·4		−·0024	+·0013	− 2·9	+ 4·2	−·0019
07 02	16·5	49·0	60·9	9·1	60·6	−·0024	+·0018	− 2·9	+ 4·9	−·0018
08	16·6	48·8		9·1		−·0024	+·0018	− 2·9	+ 4·9	−·0018
14	16·3	48·5		8·6		−·0025	+·0014	− 3·1	+ 4·6	−·0020
20	16·8	48·8		8·6		−·0024	+·0014	− 2·8	+ 4·5	−·0019
26	16·6	48·8		8·6		−·0024	+·0014	− 2·9	+ 4·5	−·0019
32	16·5	48·9		8·7		−·0023	+·0015	− 3·0	+ 4·5	−·0018
38	16·5	49·1		8·4		−·0023	+·0013	− 3·0	+ 4·2	−·0018
44	16·8	49·5		8·5		−·0022	+·0013	− 2·8	+ 4·1	−·0017
50	16·8	49·1		8·6		−·0023	+·0014	− 2·9	+ 4·2	−·0018
56	16·7	49·0		8·6		−·0023	+·0014	− 2·9	+ 4·2	−·0018
08 02	16·8	49·0	60·8	8·6	60·7	−·0022	+·0014	− 2·9	+ 4·2	−·0017
08	16·8	49·0		8·6		−·0022	+·0014	− 2·9	+ 4·2	−·0017
14	16·8	49·0		8·6		−·0022	+·0014	− 2·9	+ 4·2	−·0017
20	16·9	49·1		8·6		−·0022	+·0014	− 2·9	+ 4·2	−·0017
26	17·0	49·8		9·1		−·0021	+·0018	− 2·8	+ 4·6	−·0016
32	17·0	49·8		9·1		−·0021	+·0018	− 2·9	+ 4·6	−·0016
38	17·0	50·0		8·8		−·0020	+·0015	− 2·9	+ 4·1	−·0015
44	17·0	50·8		8·8		−·0019	+·0015	− 2·9	+ 4·0	−·0014
50	17·0	51·0		8·6		−·0018	+·0014	− 2·9	+ 3·8	−·0014
56	16·9	51·2		8·6		−·0018	+·0014	− 3·0	+ 3·8	−·0014
09 02	16·8	—	60·7	—	60·6	—	—	− 3·1	—	—
32	17·2	54·0		(a)8·6		−·0012	+·0015	− 2·9	+ 3·2	−·0008
10 02	17·8	52·5	60·5	(a)8·0	60·4	−·0015	+·0011	− 2·6	+ 3·1	−·0011
32	17·8	51·9		(a)8·4		−·0017	+·0014	− 2·7	+ 3·5	−·0013
11 02	18·0	51·9	60·3	(a)8·1	60·3	−·0018	+·0012	− 2·7	+ 3·5	−·0014
32	18·3	52·3		(a)8·1		−·0018	+·0013	− 2·6	+ 3·5	−·0014
12 02	18·8	53·5	60·1	8·1	60·1	−·0016	+·0013	− 2·3	+ 3·4	−·0012
14 02	20·0	54·8	60·0	8·1	60·0	−·0014	+·0018	− 1·7	+ 3·8	−·0010

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For Mean Monthly Readings, *see* page 85.

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3 15 02	52·1	85·6	56·4	57·6	56·7	−·0019	−·0006	+ 4·1	+ 2·1	−·0011
08	50·0	85·0		59·5		−·0020	−·0004	+ 2·6	+ 2·6	−·0010
14	50·0	84·6		54·7		−·0021	−·0009	+ 2·6	+ 2·0	−·0013
20	53·1	84·3		51·6		−·0022	−·0013	+ 4·9	+ 1·5	−·0016
26	55·0	85·5		48·2		−·0019	−·0016	+ 6·3	+ 0·5	−·0017
32	57·3	86·7		49·1		−·0017	−·0015	+ 8·0	+ 0·3	−·0016
38	56·1	89·6		51·3		−·0012	−·0013	+ 7·1	− 0·2	−·0013
44	52·9	92·3		54·4		−·0007	−·0009	+ 4·7	− 0·3	−·0008
50	50·7	95·6		53·8		−·0001	−·0010	+ 3·0	− 1·5	−·0007
56	48·7	97·8		51·9		+·0003	−·0012	+ 1·5	− 2·5	−·0007
16 02	48·3	100·0	56·9	49·2	56·9	+·0007	−·0015	+ 1·2	− 3·6	−·0007
08	49·0	102·7		47·2		+·0012	−·0017	+ 1·7	− 4·8	−·0007
14	48·0	103 5		46·3		+·0013	−·0018	+ 1·0	− 5·1	−·0007
20	48·5	104·3		45·1		+·0015	−·0019	+ 1·3	− 5·6	−·0007
26	47·2	102·5		46·9		+·0012	−·0017	+ 0·3	− 4·8	−·0007
32	46·6	99·9		50·5		+·0007	−·0013	− 0·2	− 3·3	−·0006
38	47·0	96·3		51·0		·0000	−·0013	+ 0·2	− 2·1	−·0008
44	48·4	94·7		52·2		−·0003	−·0011	+ 1·2	− 1·3	−·0008
50	49·7	94·4		46·9		−·0003	−·0017	+ 2·1	− 2·3	−·0012
56	53·3	93·7		47·6		−·0004	−·0016	+ 4·8	− 2·0	−·0012
17 02	53·1	94·2	57·1	48·6	57·3	−·0003	−·0015	+ 4·7	− 2·0	−·0011
08	51·8	94·6		49·4		−·0003	−·0014	+ 3·6	− 1·8	−·0010
14	51·9	93·0		49·9		−·0005	−·0013	+ 3·6	− 1·3	−·0010
20	53·8	91·3		49·0		−·0009	−·0014	+ 4·9	− 0·8	−·0012

(a) Observed 4m. before the times specified.

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OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 2m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
						$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
3 17 26	54·7	93·3		48·4		−·0005	−·0014	+ 5·5	− 1·5	−·0011
32	54·0	94·8		46·7		−·0002	−·0015	+ 4·9	− 2·1	−·0010
38	54·9	94·3		42·5		−·0003	−·0020	+ 5·5	− 2·8	−·0014
44	57·9	93·4		43·4		−·0005	−·0019	+ 7·7	− 2·3	−·0014
50	57·9	94·1		39·7		−·0003	−·0022	+ 7·5	− 3·1	−·0015
56	61·6	97·6		36·9		+·0003	−·0025	+10·2	− 4·6	−·0015
18 02	61·2	97·0	57·6	41·9	57·5	+·0002	−·0020	+ 9·8	− 3·6	−·0015
08	57·1	95·4		48·1		−·0001	−·0013	+ 6·8	− 2·0	−·0003
14	55·2	93·3		49·2		−·0005	−·0012	+ 5·3	− 1·2	−·0010
20	54·3	92·3		49·7		−·0007	−·0012	+ 4·7	− 0·8	−·0010
26	54·6	92·2		51·3		−·0007	−·0010	+ 4·5	− 0·5	−·0010
32	52·8	91·5		54·2		−·0009	−·0007	+ 3·6	+ 0·3	−·0010
38	51·3	91·0		55·1		−·0009	−·0006	+ 2·5	+ 0·5	−·0008
44	51·1	89·4		56·9		−·0012	−·0005	+ 2·3	+ 1·0	−·0008
50	49·3	88·6		60·6		−·0014	−·0001	+ 1·1	+ 2·5	−·0006
56	47·5	86·9		63·2		−·0017	+·0002	− 0·3	+ 3·1	−·0005
19 02	47·2	86·4	57·5	63·8	57·5	−·0018	+·0003	− 0·5	+ 3·5	−·0004
08	45·0	84·1		67·6		−·0022	+·0006	− 2·1	+ 4·6	−·0004
14	44·7	82·2		67·9		−·0026	+·0007	− 2·3	+ 5·4	−·0005
20	45·0	80·3		71·0		−·0029	+·0010	− 2·0	+ 6·4	−·0004
26	43·2	79·4		70·7		−·0031	+·0009	− 3·2	+ 6·6	−·0005
32	42·9	78·5		71·6		−·0033	+·0010	− 3·3	+ 7·1	−·0005
38	43·2	78·2		73·4		−·0034	+·0011	− 3·0	+ 7·4	−·0005
44	42·2	79·0		72·4		−·0032	+·0010	− 3·7	+ 6·9	−·0005
50	42·3	80·0		69·4		−·0030	+·0007	− 3·5	+ 6·1	−·0006
56	42·3	81·2		71·1		−·0029	+·0008	− 3·5	+ 6·0	−·0005
20 02	42·1	83·1	57·3	67·5	57·3	−·0025	+·0004	− 3·5	+ 4·8	−·0006
08	42·9	83·7		65·0		−·0024	+·0001	− 2·9	+ 4·1	−·0008
14	43·5	83·9		62·6		−·0024	+·0002	− 2·3	+ 4·3	−·0007
20	44·9	84·2		60·3		−·0024	−·0004	− 1·2	+ 3·3	−·0011
26	45·4	84·7		59·5		−·0023	−·0005	− 0·8	+ 3·0	−·0011
32	45·8	85·0		58·5		−·0022	−·0006	− 0·3	+ 2·6	−·0012
38	45·6	84·8		57·4		−·0023	−·0008	− 0·4	+ 2·5	−·0013
44	46·3	84·7		53·3		−·0023	−·0012	+ 0·2	+ 1·8	−·0016
50	47·3	84·0		55·4		−·0024	−·0010	+ 1·1	+ 2·3	−·0015
56	47·0	82·6		52·5		−·0027	−·0013	+ 0·9	+ 2·3	−·0018
21 02	52·7	86·0	57·2	45·0	57·3	−·0021	−·0022	+ 5·3	− 0·2	−·0022
08	49·4	94·6		39·5		−·0005	−·0028	+ 2·9	− 3·8	−·0020
14	52·0	91·6		39·5		−·0011	−·0028	+ 4·9	− 2·8	−·0022
20	53·4	90·0		36·6		−·0014	−·0031	+ 6·0	− 2·8	−·0025
26	55·0	91·7		37·1		−·0010	−·0030	+ 7·3	− 3·3	−·0023
32	53·9	91·0		42·3		−·0012	−·0024	+ 6·6	− 2·0	−·0020
38	49·5	88·8		51·3		−·0016	−·0014	+ 3·4	+ 0·3	−·0015
44	45·3	88·0		54·7		−·0017	−·0010	+ 0·3	+ 1·2	−·0012
50	45·0	89·5		54·7		−·0015	−·0010	+ 0·2	+ 0·8	−·0012
56	44·9	91·2		50·6		−·0012	−·0015	+ 0·2	+ 1 2	−·0007
22 02	45·8	91·2	56·9	49·2	57·5	−·0012	−·0016	+ 0·9	− 0·7	−·0015
08	46·8	90·9		49·3		−·0012	−·0016	+ 1·7	− 0·7	−·0015
14	47·1	89·6		50·0		−·0014	−·0015	+ 2·0	− 0·2	−·0015
20	46·7	90·0		49·0		−·0013	−·0016	+ 1·7	− 0·5	−·0015
26	47·7	90·1		49·2		−·0013	−·0016	+ 2·5	− 0·5	−·0015
32	47·9	90·0		49·3		−·0013	−·0016	+ 2·7	− 0·5	−·0015
38	48·0	88·4		52·3		−·0016	−·0012	+ 2·9	+ 0·7	−·0016
44	47·1	89·1		53·9		−·0014	−·0010	+ 2·2	+ 0·7	−·0013
50	46·0	89·4		55·0		−·0013	−·0009	+ 1·4	+ 0·7	−·0010
56	45·7	87·7		56·7		−·0016	−·0007	+ 1·2	+ 1·5	−·0010
23 02	44·4	84·9	57·2	59·5	57·6	−·0021	−·0004	+ 0·3	+ 2·8	−·0010
08	43·6	83·7		60·1		−·0023	−·0003	− 0·4	+ 3·3	−·0010
14	43·9	80·5		63·0		−·0029	·0000	− 0·2	+ 4·8	−·0010
20	43·9	82·4		63·8		−·0025	+·0001	− 0·2	+ 4·3	−·0008
26	43·3	79·2		65·6		−·0031	+·0003	− 0·7	+ 5·6	−·0009
32	42·4	79·4		66·9		−·0030	+·0005	− 1·4	+ 5·8	−·0008

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OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 2m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
3 23 38	42·9	79·3		65·6		−·0030	+·0003	− 1·1	+ 5·4	−·0009
44	44·5	79·7		64·4		−·0029	+·0002	+ 0·1	+ 5·1	−·0009
50	45·4	79·8		63·1		−·0029	+·0001	+ 0·7	+ 4·9	−·0010
56	46·1	79·0		63·2		−·0030	+·0001	+ 1·2	+ 5·1	−·0010
4 00 02	46·8	78·5	57·4	62·5	57·6	−·0031	·0000	+ 1·7	+ 5·1	−·0011
08	45·1	78·6		66·2		−·0030	+·0004	+ 0·4	+ 5·6	−·0008
14	45·1	79·7		65·2		−·0028	+·0003	+ 0·4	+ 5·1	−·0008
20	45·0	78·7		65·9		−·0030	+·0004	+ 0·2	+ 5·6	−·0008
26	44·8	77·9		66·7		−·0031	+·0005	+ 0·1	+ 5·8	−·0008
32	44·8	78·0		66·7		−·0031	+·0005	+ 0·1	+ 5·9	−·0008
38	44·1	78·0		67·8		−·0031	+·0006	− 0·5	+ 6·1	−·0007
44	43·3	77·1		68·4		−·0032	+·0007	− 1·1	+ 6·4	−·0007
50	43·5	76·6		69·4		−·0033	+·0008	− 1·0	+ 6·8	−·0007
56	43·0	76·4		69·4		−·0033	+·0008	− 1·4	+ 6·8	−·0007
01 02	43·0	76·4	57·7	69·8	57·8	−·0033	+·0008	− 1·4	+ 6·8	−·0007
08	43·0	76·8		69·1		−·0032	+·0007	− 1·4	+ 6·4	−·0007
14	43·1	76·9		68·9		−·0032	+·0007	− 1·4	+ 6·4	−·0007
20	43·0	76·1		67·8		−·0033	+·0006	− 1·5	+ 6·4	−·0008
26	42·9	76·3		68·7		−·0033	+·0007	− 1·7	+ 6·6	−·0007
32	42·0	75·0		69·3		−·0035	+·0008	− 2·4	+ 7·1	−·0007
38	42·9	74·1		67·9		−·0037	+·0007	− 1·7	+ 7·3	−·0009
44	43·0	72·6		69·5		−·0039	+·0008	− 1·7	+ 7·7	−·0009
50	42·9	70·3		71·2		−·0044	+·0010	− 1·9	+ 8·9	−·0009
56	41·4	70·3		71·2		−·0044	+·0010	− 3·0	+ 8·9	−·0009
02 02	41·9	72·3	57·8	67·9	58·0	−·0040	+·0007	− 2·7	+ 7·7	−·0010
08	43·0	72·0		67·1		−·0040	+·0006	− 1·9	+ 7·6	−·0010
14	44·5	74·1		65·0		−·0037	+·0003	− 0·8	+ 6·6	−·0011
20	43·9	73·2		65·0		−·0038	+·0003	− 1·2	+ 6·8	−·0012
26	44·7	73·0		65·3		−·0039	+·0003	− 0·6	+ 6·9	−·0012
32	43·9	74·0		65·3		−·0037	+·0003	− 1·3	+ 6·6	−·0011
38	44·1	74·9		63·3		−·0035	+·0001	− 1·1	+ 5·9	−·0012
44	43·9	74·0		65·2		−·0037	+·0003	− 1·3	+ 6·6	−·0011
50	43·1	75·0		64·3		−·0035	+·0002	− 1·9	+ 6·1	−·0011
56	42·2	75·1		65·7		−·0035	+·0003	− 2·6	+ 6·3	−·0011
03 02	41·9	75·9	58·1	65·3	58·4	−·0033	+·0003	− 2·8	+ 5·9	−·0010
08	40·9	76·0		65·7		−·0033	+·0003	− 3·5	+ 5·9	−·0010
14	40·9	75·6		66·7		−·0034	+·0004	− 3·4	+ 6·3	−·0010
20	39·8	75·9		66·4		−·0033	+·0003	− 4·2	+ 5·9	−·0010
26	40·1	75·5		66·4		−·0034	+·0003	− 3·9	+ 6·1	−·0010
32	38·8	75·0		67·2		−·0034	+·0004	− 4·8	+ 6·3	−·0010
38	40·4	73·7		65·6		−·0037	+·0002	− 3·5	+ 6·4	−·0012
44	39·9	73·1		67·2		−·0038	+·0003	− 3·8	+ 6·8	−·0012
50	39·1	72·2		68·8		−·0039	+·0005	− 4·4	+ 7·3	−·0011
56	38·9	71·1		71·3		−·0041	+·0008	− 4·5	+ 8·1	−·0010
04 02	37·2	72·2	58·4	70·4	58·6	−·0039	+·0007	− 5·7	+ 7·6	−·0009
08	38·3	73·6		68·1		−·0036	+·0004	− 4·8	+ 6·6	−·0010
14	38·9	73·0		68·1		−·0037	+·0004	− 4·4	+ 6·8	−·0011
20	38·4	73·2		67·2		−·0037	+·0003	− 4·7	+ 6·6	−·0011
26	38·9	72·9		66·9		−·0037	+·0003	− 4·3	+ 6·6	−·0011
32	39·0	73·3		65·5		−·0037	+·0001	− 4·1	+ 6·3	−·0013
38	39·0	72·0		66·6		−·0039	+·0002	− 4·1	+ 6·8	−·0013
44	38·8	72·0		67·3		−·0039	+·0003	− 4·2	+ 6·9	−·0012
50	37·9	72·0		68·8		−·0039	+·0005	− 4·9	+ 7·3	−·0011
56	36·9	74·1		65·0		−·0035	+·0001	− 5·6	+ 5·9	−·0012
05 02	38·9	74·9	58·8	61·3	58·9	−·0033	−·0004	− 4·1	+ 4·8	−·0014
08	40·0	74·8		61·3		−·0033	−·0004	− 3·2	+ 4·8	−·0014
14	39·5	75·4		60·5		−·0032	−·0004	− 3·6	+ 4·6	−·0014
20	39·3	74·6		61·9		−·0033	−·0003	− 3·8	+ 4·9	−·0014
26	38·2	74·1		63·0		−·0033	−·0002	− 4·6	+ 5·1	−·0013
32	38·0	73·9		63·5		−·0033	−·0001	− 4·7	+ 5·3	−·0012
38	37·8	74·0		63·3		−·0033	−·0001	− 4·8	+ 5·3	−·0012
44	37·9	74·0		62·9		−·0032	−·0002	− 4·7	+ 4·9	−·0013

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Cape of Good Hope.
July 4.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 2m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
4 5 50	38·1	74·1		62·0		−·0032	−·0003	− 4·6	+ 4·8	−·0013
56	38·7	74·3		61·4		−·0031	−·0004	− 4·1	+ 4·4	−·0014
6 02	38·9	75·2	59·2	59·7	59·2	−·0029	−·0005	− 4·0	+ 4·0	−·0014
08	39·1	76·2		59·7		−·0027	−·0005	− 3·8	+ 3·6	−·0013
14	38·9	77·2		58·6		−·0025	−·0006	− 4·0	+ 3·1	−·0013
20	38·9	78·1		57·3		−·0024	−·0008	− 4·0	+ 2·6	−·0014
26	39·0	78·8		56·2		−·0023	−·0009	− 3·9	+ 2·3	−·0014
32	39·1	79·3		55·5		−·0022	−·0010	− 3·8	+ 2·0	−·0014
38	39·2	79·8		54·9		−·0021	−·0010	− 3·8	+ 1·8	−·0014
44	39·2	79·5		54·9		−·0021	−·0010	− 3·8	+ 1·8	−·0014
50	39·2	79·5		54·9		−·0021	−·0010	− 3·8	+ 1·8	−·0014
56	39·2	79·3		55·7		−·0022	−·0009	− 3·8	+ 2·1	−·0014
7 02	39·2	79·0	59·2	55·5	59·3	−·0022	−·0009	− 3·8	+ 2·1	−·0014
08	39·2	78·9		55·8		−·0022	−·0009	− 3·8	+ 2·1	−·0014
14	39·8	78·8		55·8		−·0022	−·0009	− 3·4	+ 2·1	−·0014
20	39·9	78·8		55·8		−·0022	−·0009	− 3·3	+ 2·1	−·0014
26	39·8	78·9		55·8		−·0022	−·0009	− 3·4	+ 2·1	−·0014
32	39·8	—		—		—	—	− 3·5	—	—
8 02	40·0	79·5	59·3	55·6	59·2	−·0019	−·0010	− 3·4	+ 1·5	−·0013
9 02	38·8	83·9	58·9	57·2	59·1	−·0012	−·0007	− 4·4	+ 0·8	−·0009
08	39·1	83·9		52·8		−·0012	−·0012	− 4·1	0·0	−·0012
14	39·9	86·3		50·5		−·0008	−·0015	− 3·5	− 1·2	−·0013
20	41·1	86·2		49·3		−·0008	−·0016	− 2·6	− 1·3	−·0013
26	42·0	86·0		48·8		−·0008	−·0016	− 2·0	− 1·3	−·0013
32	42·9	85·0		49·0		−·0010	−·0016	− 1·4	− 1·0	−·0014
38	43·2	83·6		51·6		−·0012	−·0013	− 1·1	− 0·2	−·0013
44	42·4	83·4		52·6		−·0012	−·0012	− 1·7	0·0	−·0012
50	42·0	83·0		53·6		−·0013	−·0011	− 2·0	+ 0·3	−·0012
56	41·6	82·6		54·4		−·0014	−·0010	− 2·3	+ 0·7	−·0011
10 02	41·2	82·4	59·2	54·6	59·3	−·0014	−·0010	− 2·6	+ 0·7	−·0011
08	41·2	82·1		55·0		−·0014	−·0009	− 2·7	+ 0·8	−·0011
14	41·1	81·9		55·5		−·0015	−·0009	− 2·8	+ 1·0	−·0011
20	41·0	81·9		55·7		−·0015	−·0008	− 2·9	+ 1·2	−·0010
26	40·9	81·9		55·5		−·0015	−·0008	− 3·0	+ 1·2	−·0010
32	40·9	82·0		55·4		−·0015	−·0008	− 3·1	+ 1·2	−·0010
38	40·9	82·0		55·4		−·0015	−·0008	− 3·2	+ 1·2	−·0010
44	40·9	82·0		55·4		−·0015	−·0008	− 3·2	+ 1·2	−·0010
50	41·0	82·0		55·4		−·0015	−·0008	− 3·2	+ 1·2	−·0010
56	41·0	82·0		55·4		−·0015	−·0008	− 3·2	+ 1·2	−·0010
11 02	41·0	82·0	59·4	55·4	59·5	−·0015	−·0008	− 3·2	+ 1·2	−·0010
12 02	42·0	83·3	59·1	53·2	59·2	−·0014	−·0010	− 2·9	+ 0·7	−·0011

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For Mean Monthly Readings, *see* page 88.

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3 17 44	135·6	21·7	68·5	− 7·3	68·8	−·0286	−·0060	+ 0·4	+19·1	−·0074
50	131·3	51·2		−22·3		−·0264	−·0074	− 2·8	+16·1	−·0086
56	137·9	− 51·5[a]		−27·3		−·0339	−·0078	+ 1·8	+22·1	−·0095
18 02	134·0	−194·3[a]	68·5	—	68·9	−·0445	—	− 1·1	—	—
08	105·3	−286·3[a]		13·4		−·0513	−·0040	−21·5	+40·0	−·0071
14	88·0	−128·1[a]		38·7		−·0396	−·0017	−23·7	+32·0	−·0041
20	85·1	−108·1[a]		31·4		−·0382	−·0023	−35·6	+30·3	−·0046
26	84·8	−171·5[a]		72·3		−·0434	+·0015	−35·6	+38·0	−·0014
32	127·9	64·8		51·7		−·0254	−·0004	− 4·2	+21·1	−·0020
38	173·1	75·4		6·4		−·0247	−·0046	+28·5	+17·0	−·0059
44	144·1	166·0		4·3		−·0180	−·0048	+ 7·8	+11·2	−·0056
50	124·0	122·3		−17·8		−·0212	−·0068	− 6·4	+12·2	−·0077
56	119·1	76·0		−17·7		−·0247	−·0059	− 9·7	+15·9	−·0071
19 02	108·5	− 90·9[a]	68·6	−34·8	69·1	−·0371	−·0084	−17·1	+24·3	−·0102
08	60·5	−197·4[a]		−29·8		−·0449	−·0079	−51·6	+31·3	−·0103

[a] The minus signs are here properly prefixed.

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Toronto.

July 3—4.

OBSERVATIONS OF THE MAGNETOMEETRS. The Declination was observed 2m. before, and the V. F. 2m. after the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
3 19 14	76·4	−294·9		—		−·0522	—	−40·2	—	—
20	81·1	−383·6		—		−·0587	—	−36·7	—	—
26	70·7	−468·1		—		−·0650	—	−44·1	—	—
32	42·0	−218·1		—		−·0465	—	−64·8	—	—
38	6·1	− 63·8(a)		− 0·5(a)		−·0350	−·0052	−90·6	+25·2	−·0071
44	38·9	− 46·3(a)		14·5		−·0337	−·0038	−66·9	+25·3	−·0057
50	68·1	34·2		13·3		−·0277	−·0039	−45·9	+20·1	−·0054
56	114·2	184·8		10·3		−·0166	−·0042	−12·5	+10·5	−·0050
20 02	129·8	334·3	68·4	14·3	68·7	−·0055	−·0038	− 1·2	+ 1·4	−·0039
08	105·7	313·9		26·0		−·0070	−·0028	−18·6	+ 3·6	−·0031
14	120·0	269·5		17·3		−·0103	−·0036	− 8·4	+ 5·7	−·0040
20	107·0	242·8		16·0		−·0123	−·0037	−17·8	+ 7·3	−·0042
26	100·7	131·8		13·8		−·0205	−·0039	−22·4	+14·0	−·0050
32	105·0	87·7		15·5		−·0238	−·0038	−19·3	+16·9	−·0051
38	135·3	98·8		21·5		−·0230	−·0033	+ 2·4	+16·6	−·0046
44	147·9	118·9		14·3		−·0215	−·0039	+11·4	+14·9	−·0050
50	148·0	181·5		7·3		−·0168	−·0046	+11·4	+10·3	−·0054
56	126·9	88·2		9·0		−·0238	−·0044	− 3·8	+16·4	−·0056
21 02(b)	136·6	52·4	68·2	−32·3(a)	68·3	−·0264	−·0083	+ 3·1	+15·3	−·0095
08	131·6	− 12·0(a)		−72·3(a)		−·0312	−·0120	− 0·5	+16·2	−·0132
14	128·3	13·3		−97·2(a)		−·0294	−·0144	− 2·8	+12·7	−·0154
20	119·2	76·3		−27·2(a)		−·0247	−·0079	− 9·4	+14·2	−·0090
26	125·3	149·3		− 2·7(a)		−·0194	−·0056	− 4·9	+11·7	−·0065
32	136·5	286·0		19·8		−·0093	−·0035	+ 3·2	+ 4·9	−·0039
38	162·3	318·8		26·7		−·0069	−·0029	+21·7	+ 3·4	−·0032
44	171·0	406·6		37·9		−·0004	−·0018	+28·0	− 1·2	−·0017
50	137·9	370·6		39·4		−·0031	−·0017	+ 4·2	+ 1·2	−·0018
56	128·3	369·5		35·1		−·0032	−·0021	− 2·7	+ 0·9	−·0022
22 02	131·5	379·3	67·8	37·6	68·1	−·0025	−·0019	− 0·4	+ 0·5	−·0019
08	136·9	383·1		37·4		−·0022	−·0019	+ 3·3	+ 0·2	−·0019
14	134·7	368·7		28·2		−·0033	−·0028	+ 1·3	+ 0·3	−·0028
20	131·0	368·1		37·5		−·0033	−·0019	− 1·6	+ 1·2	−·0020
26	135·8	375·2		37·5		−·0028	−·0020	+ 1·4	+ 0·7	−·0020
32	137·3	360·1		46·5		−·0039	−·0012	+ 2·3	+ 2·3	−·0014
38	134·4	375·7		40·1		−·0028	−·0018	− 0·1	+ 0·9	−·0019
44	142·3	389·4		42·0		−·0017	−·0016	+ 5·1	+ 0·1	−·0016
50	142·5	386·3		41·9		−·0020	−·0016	+ 5·0	+ 0·3	−·0016
56	140·5	365·3		41·3		−·0035	−·0017	+ 3·3	+ 1·5	−·0018
23 02	131·5	319·5	67·0	36·9	67·5	−·0069	−·0021	− 3·5	+ 4·1	−·0024
08	128·2	262·4		35·3		−·0112	−·0023	− 5·9	+ 7·5	−·0029
14	112·7	216·3		34·3		−·0146	−·0024	−17·2	+10·3	−·0032
20	96·8	248·2		29·2		−·0123	−·0028	−28·6	+ 8·0	−·0034
26	96·7	247·2		24·7		−·0123	−·0033	−28·7	+ 7·6	−·0039
32	131·1	283·0		33·4		−·0097	−·0025	− 4·0	+ 6·1	−·0030
38	134·3	291·4		33·5		−·0091	−·0025	− 1·6	+ 5·6	−·0029
44	135·7	304·5		33·6		−·0082	−·0024	− 0·6	+ 4·9	−·0028
50	132·1	303·4		35·9		−·0083	−·0022	− 3·3	+ 5·1	−·0026
56	133·6	318·9		33·6		−·0072	−·0025	− 2·3	+ 4·0	−·0028
4 00 02	130·6	337·5	66·8	42·2	67·5	−·0058	−·0017	− 4·4	+ 3·5	−·0020
08	127·0	329·4		42·2		−·0064	−·0017	− 7·1	+ 4·0	−·0020
14	128·8	341·2		46·0		−·0055	−·0013	− 6·0	+ 3·6	−·0016
20	131·4	332·6		44·1		−·0061	−·0015	− 4·3	+ 3·9	−·0018
26	131·1	340·9		43·3		−·0055	−·0016	− 4·7	+ 3·3	−·0019
32	128·2	354·7		46·5		−·0045	−·0013	− 6·9	+ 2·7	−·0015
38	124·8	345·0		44·9		−·0052	−·0014	− 9·5	+ 3·2	−·0016
44	122·3	336·9		45·2		−·0057	−·0014	−11·4	+ 3·6	−·0017
50	117·1	336·9		46·3		−·0057	−·0013	−15·4	+ 3·7	−·0016
56	118·9	320·5		43·8		−·0069	−·0016	−14·3	+ 4·5	−·0019
01 02	126·3	309·4	67·3	43·1	67·3	−·0077	−·0016	− 9·0	+ 5·1	−·0020
08	127·0	299·4		45·0		−·0084	−·0014	− 8·7	+ 5·9	−·0018
14	125·3	295·0		44·9		−·0087	−·0015	−10·0	+ 6·1	−·0020
20	120·3	265·7		41·8		−·0108	−·0017	−13·8	+ 7·7	−·0023

a The minus signs are here properly prefixed.

b At 21h. 04m. the reading of the Horizontal Force Magnet was −356·7, to which the corresponding value of $\frac{\Delta X}{X}$ is −·0567.

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Toronto.

July 4.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 2m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
						$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
4 01 26	118·4	293·5		42·7		−·0087	−·0017	−15·2	+ 5·9	−·0021
32	118·9	285·5		34·9		−·0093	−·0024	−15·0	+ 5·8	−·0028
38	126·0	286·0		38·5		−·0092	−·0020	−10·0	+ 6·1	−·0025
44	127·6	299·3		40·1		−·0082	−·0019	− 8·9	+ 5·3	−·0023
50	128·1	303·8		43·8		−·0078	−·0016	− 8·7	+ 5·2	−·0020
56	126·7	281·9		47·1		−·0094	−·0012	− 9·8	+ 6·9	−·0017
02 02	129·0	288·8	67·5	43·7	67·3	−·0088	−·0016	− 8·3	+ 6·1	−·0021
08	137·5	317·9		48·9		−·0066	−·0011	− 2·0	+ 4·6	−·0015
14	136·5	316·2		49·9		−·0067	−·0010	− 2·6	+ 4·8	−·0014
20	127·8	321·8		47·4		−·0063	−·0012	− 8·6	+ 4·3	−·0015
26	123·2	342·9		48·1		−·0046	−·0011	−11·8	+ 3·0	−·0013
32	124·9	335·2		49·7		−·0052	−·0010	−10·5	+ 3·6	−·0013
38	125·6	332·2		51·8		−·0053	−·0008	− 9·8	+ 3·8	−·0011
44	128·3	335·1		53·3		−·0051	−·0006	− 7·7	+ 3·8	−·0009
50	125·5	349·4		54·4		−·0040	−·0005	− 9·5	+ 3·0	−·0007
56	121·0	326·5		53·2		−·0056	−·0006	−12·6	+ 4·2	−·0009
03 02	119·2	322·3	68·0	54·2	67·8	−·0059	−·0005	−13·8	+ 4·6	−·0008
08	121·4	315·2		53·8		−·0064	−·0005	−11·9	+ 5·0	−·0009
14	126·3	327·0		55·0		−·0054	−·0004	− 8·0	+ 4·2	−·0007
20	124·4	322·2		55·0		−·0058	−·0004	− 9·1	+ 4·6	−·0007
26	126·9	315·5		54·8		−·0062	−·0004	− 7·1	+ 4·9	−·0008
32	121·8	293·1		49·5		−·0078	−·0009	−10·5	+ 5·8	−·0013
38	126·8	337·6		56·9		−·0045	−·0003	− 6·6	+ 3·6	−·0006
44	128·9	339·7		60·0		−·0043	·0000	− 4·8	+ 3·6	−·0003
50	126·7	344·7		62·3		−·0039	+·0003	− 6·2	+ 3·6	·0000
56	123·9	340·7		59·1		−·0041	−·0001	− 7·8	+ 3·4	−·0004
04 02	121·6	325·2	68·4	58·3	68·0	−·0053	−·0001	− 9·2	+ 4·4	−·0004
08	126·3	333·6		60·8		−·0046	+·0001	− 5·5	+ 4·0	−·0002
14	128·6	326·0		59·3		−·0052	·0000	− 3·6	+ 4·4	−·0003
20	126·8	331·2		59·7		−·0048	+·0001	− 4·6	+ 4·1	−·0002
26	122·4	321·4		56·4		−·0056	−·0003	− 7·5	+ 4·5	−·0006
32	125·5	326·1		58·9		−·0052	·0000	− 4·9	+ 4·4	−·0003
38	123·5	329·2		59·1		−·0050	·0000	− 6·2	+ 4·2	−·0003
44	120·7	324·0		67·4		−·0054	+·0008	− 7·9	+ 5·2	+·0004
50	123·1	351·6		64·3		−·0034	+·0006	− 5·9	+ 3·4	+·0003
56	119·9	350·7		63·4		−·0034	+·0005	− 7·9	+ 3·3	+·0002
05 02	121·0	363·8	68·6	65·6	68·5	−·0025	+·0007	− 6·9	+ 2·7	+·0005
08	122·3	371·9		66·2		−·0019	+·0008	− 5·5	+ 2·3	+·0005
14	120·6	373·8		66·2		−·0018	+·0008	− 6·5	+ 2·2	+·0006
20	123·2	371·7		64·2		−·0020	+·0006	− 4·2	+ 2·2	+·0004
26	118·9	354·2		62·7		−·0033	+·0004	− 7·0	+ 3·1	+·0002
32	121·0	349·5		63·3		−·0037	+·0005	− 5·1	+ 3·6	+·0002
38	121·1	354·8		64·4		−·0033	+·0006	− 4·7	+ 3·3	+·0003
44	123·0	364·0		65·0		−·0027	+·0006	− 3·0	+ 2·8	+·0004
50	122·9	363·2		65·0		−·0028	+·0006	− 2·8	+ 2·9	+·0004
56	121·4	366·8		64·7		−·0025	+·0006	− 3·5	+ 2·6	+·0004
06 02	120·0	359·5	68·4	64·7	68·5	−·0031	+·0006	− 4·2	+ 3·1	+·0004

1842.
Cape of Good Hope.

July 29.

For Mean Monthly Readings, *see* page 85.

CAPE OF GOOD HOPE, 1842. JULY 29 and 31.

29 01 02	44·9	106·2	55·7	65·1	55·9	+·0015	+·0003	+ 0·1	− 2·0	+·0007
26	—	103·8		67·7		+·0012	+·0005	—	− 1·2	+·0007
32	45·0	104·0		67·7		+·0012	+·0005	− 0·2	− 1·2	+·0007
38	45·0	104·9		67·2		+·0013	+·0005	− 0·2	− 1·3	+·0008
44	45·2	105·3		66·1		+·0014	+·0004	− 0·1	− 1·7	+·0008
50	45·2	105·2		66·7		+·0014	+·0005	− 0·2	− 1·5	+·0008
56	45·8	104·9		67·0		+·0014	+·0005	+ 0·3	− 1·5	+·0008
02 02	45·9	104·4	56·0	67·3	56·3	+·0013	+·0005	+ 0·3	− 1·3	+·0008
08	45·9	104·9		67·5		+·0014	+·0005	+ 0·3	− 1·5	+·0008
14	45·9	104·8		67·5		+·0014	+·0005	+ 0·3	− 1·5	+·0008

1842.
Cape of Good Hope.

July 29 and 31.

OBSERVATIONS OF THE MAGNETOMETERS. The Declination was observed 2m. before, and the V. F. 2m. after the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta \psi$	$\Delta \theta$	$\frac{\Delta \phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
29 02 20	46·0	104·0		68·1		+·0012	+·0006	+ 0·4	− 1·0	+·0008
26	46·0	104·0		68·5		+·0012	+·0006	+ 0·4	− 1·0	+·0008
32	46·0	103·7		69·4		+·0012	+·0007	+ 0·3	− 0·8	+·0009
38	46·0	103·1		70·0		+·0011	+·0007	+ 0·3	− 0·7	+·0008
44	46·0	102·9		71·7		+·0011	+·0009	+ 0·3	− 0·3	+·0010
50	46·0	102·2		71·7		+·0009	+·0009	+ 0·3	0·0	+·0009
56	46·1	102·7		72·0		+·0010	+·0009	+ 0·4	− 0·2	+·0009
03 02	46·2	102·8	56·5	72·0	56·7	+·0011	+·0009	+ 0·5	− 0·3	+·0010
31 16 02	49·6	—	53·9	—	54·6	—	—	+ 2·2	—	—
20	—	107·3		32·8		+·0011	−·0034	—	− 7·4	−·0018
26	50·3	107·1		33·4		+·0011	−·0033	+ 2·6	− 7·3	−·0017
32	49·9	107·4		34·3		+·0011	−·0032	+ 2·3	− 7·1	−·0017
38	49·8	107·4		34·9		+·0011	−·0032	+ 2·3	− 7·1	−·0017
44	49·2	107·8		35·8		+·0012	−·0031	+ 1·8	− 7·1	−·0016
50	48·5	107·3		37·2		+·0011	−·0029	+ 1·2	− 6·6	−·0015
56	47·8	107·0		37·2		+·0010	−·0029	+ 0·7	− 6·4	−·0015
17 02	47·9	106·8	53·8	37·3	54·6	+·0010	−·0029	+ 0·8	− 6·4	−·0015
08	47·8	107·1		37·3		+·0010	−·0028	+ 0·6	− 6·3	−·0014
14	47·3	106·2		38·4		+·0009	−·0027	+ 0·2	− 5·9	−·0014
20	46·9	106·2		38·2		+·0009	−·0027	− 0·3	− 5·9	−·0014
26	47·0	106·3		37·7		+·0009	−·0027	− 0·3	− 5·9	−·0014
32	47·7	105·5		37·5		+·0007	−·0027	+ 0·2	− 5·6	−·0015
38	48·4	105·4		37·0		+·0007	−·0027	+ 0·6	− 5·6	−·0015
44	48·4	105·3		36·5		+·0007	−·0028	+ 0·5	− 5·8	−·0015
50	48·2	105·1		36·0		+·0007	−·0028	+ 0·2	− 5·8	−·0015
56	48·7	105·4		35·0		+·0007	−·0029	+ 0·5	− 5·9	−·0016
18 02	49·4	105·4	53·9	34·8	54·6	+·0007	−·0029	+ 1·0	− 5·9	−·0016
08	49·6	105·3		34·4		+·0007	−·0030	+ 1·1	− 6·1	− 0017
14	50·0	105·0		35·0		+·0006	−·0029	+ 1·4	− 5·8	−·0016
20	49·9	104·6		35·0		+·0005	−·0030	+ 1·4	− 5·8	−·0017
26	50·0	104·9		35·8		+·0005	−·0029	+ 1·5	− 5·6	−·0017
32	49·8	105·3		35·5		+·0006	−·0029	+ 1·4	− 5·8	−·0016
38	50·3	105·6		35·7		+·0006	−·0029	+ 1·7	− 5·8	−·0016
44	50·1	105·3		35·5		+·0006	−·0030	+ 1·6	− 5·9	−·0017
50	50·2	105·7		35·9		+·0008	−·0029	+ 1·7	− 6·1	−·0016
56	50·3	106·1		35·9		+·0007	−·0030	+ 1·8	− 6·1	−·0017
19 02	49·9	—		—		—	—	+ 1·5	—	—
20 02	47·6	—		—		—	—	+ 0·6	—	—
21 02	44·0	—		—		—	—	− 1·3	—	—
22 02	41·0	—		—		—	—	− 2·7	—	—
32	—	94·1	53·8	55·6	54·5	−·0015	−·0011	—	+ 0·7	−·0012
38	38·2	94·0		55·5		−·0014	−·0010	− 4·5	+ 0·7	−·0011
44	38·5	95·0		53·7		−·0012	−·0012	− 4·3	+ 0·0	−·0012
50	38·2	92·2		55·9		−·0017	−·0009	− 4·4	+ 1·3	−·0012
56	38·8	92·2		55·0		−·0017	−·0010	− 4·0	+ 1·2	−·0012
23 02	38·9	92·1	54·2	54·7	54·7	−·0017	−·0011	− 3·8	+ 1·0	−·0013
08	38·9	92·3		54·1		−·0016	−·0011	− 3·9	+ 0·8	−·0013
14	38·3	92·5		53·9		−·0015	−·0011	− 4·4	+ 0·7	−·0012
20	38·2	92·2		53·8		−·0016	−·0011	− 4·5	+ 0·8	−·0013
26	38·2	92·2		53·4		−·0015	−·0012	− 4·5	+ 0·5	−·0013
32	38·1	92·2		53·4		−·0015	−·0011	− 4·7	+ 0·7	−·0012
38	37·9	92·7		52·6		−·0014	−·0012	− 4·9	+ 0·3	−·0013
44	38·1	92·7		51·8		−·0014	−·0013	− 4·7	+ 0·2	−·0013
50	38·1	92·5		51·3		−·0014	−·0014	− 4·8	0·0	−·0014
56	38·3	92·6		50·4		−·0013	−·0015	− 4·7	− 0·3	−·0014

CAPE OF GOOD HOPE, 1842. AUGUST 1.

MEAN MONTHLY READINGS OF THE MAGNETOMETERS.

Mean Göttingen Time.	Declination.	H. F. at 58°·7.	V. F. at 59°·1.	Mean Göttingen Time.	Declination.	H. F. at 58°·7.	V. F. at 59°·1.
Hours.	Sc. Div.	Sc. Div.	Sc. Div.	Hours.	Sc. Div.	Sc. Div.	Sc. Div.
00	43·0	96·4	65·9	12	45·9	94·4	67·4
01	44·1	95·5	64·3	13	46·2	94·6	67·1
02	45·7	94·2	65·4	14	46·5	95·2	66·5
03	46·4	93·7	66·3	15	46·7	95·2	66·2
04	46·0	93·9	68·3	16	46·7	95·1	66·4
05	45·0	94·0	69·4	17	47·4	95·2	66·0
06	45·2	94·1	68·6	18	48·0	95·7	64·4
07	45·2	93·5	68·9	19	48·6	96·4	64·9
08	45·5	93·6	68·6	20	47·0	97·6	68·7
09	45·5	93·6	67·7	21	44·2	98·7	70·5
10	45·5	94·1	68·1	22	42·5	98·6	70·6
11	45·5	94·3	68·1	23	42·1	97·7	68·1

Coefficients (A), Approximate Absolute Values (B.)

(A) Declin. $a = 0'·751$

H. F. $k = \cdot00018$, $q = \cdot00028$

V. F. $k = \cdot00011$, $q = \cdot00005$

(B) Approx. $\psi = 29° 05'$, $X = 4·46$, $Y = 6·00$, $\theta = -53° 12'$, $\phi = 7·50$

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 2m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
1 00 02	38·2	92·7	54·7	49·8	55·0	−·0018	−·0020	− 3·6	− 0·3	−·0019
08	38·9	93·2		48·9		−·0017	−·0020	− 3·2	− 0·5	−·0019
14	39·1	92·7		48·7		−·0017	−·0020	− 3·1	− 0·5	−·0019
20	38·9	92·6		48·8		−·0017	−·0020	− 3·3	− 0·5	−·0019
26	38·9	92·9		48·3		−·0016	−·0020	− 3·4	− 0·7	−·0019
32	39·0	92·9		47·9		−·0016	−·0021	− 3·5	− 0·8	−·0019
•38	39·0	93·0		47·8		−·0015	−·0021	− 3·5	− 1·0	−·0019
44	38·9	92·7		47·7		−·0016	−·0020	− 3·7	− 0·7	−·0019
50	38·9	92·7		47·2		−·0015	−·0020	− 3·8	− 0·8	−·0018
56	39·1	92·9		46·3		−·0014	−·0022	− 3·7	− 1·3	−·0019
01 02	39·3	92·8	55·4	45·5	55·6	−·0014	−·0023	− 3·6	− 1·5	−·0020
08	40·0	92·9		43·9		−·0014	−·0024	− 3·2	− 1·7	−·0020
14	40·3	92·7		43·3		−·0014	−·0025	− 3·1	− 1·8	−·0021
20	41·0	92·4		48·7		−·0014	−·0019	− 2·7	− 0·8	−·0017
26	41·1	92·0		48·6		−·0014	−·0020	− 2·7	− 1·0	−·0018
32	41·2	92·0		41·9		−·0014	−·0027	− 2·8	− 2·1	−·0022
38	41·9	91·6		41·4		−·0014	−·0028	− 2·4	− 2·3	−·0023
44	42·1	91·3		41·4		−·0014	−·0028	− 2·3	− 2·3	−·0023
50	42·6	91·6		40·2		−·0013	−·0029	− 2·1	− 2·6	−·0023
56	43·0	91·6		40·2		−·0013	−·0029	− 1·9	− 2·6	−·0023
02 02	43·1	91·9	56·0	39·3	56·1	−·0012	−·0030	− 2·0	− 3·0	−·0024
08	43·2	92·3		38·7		−·0011	−·0031	− 2·0	− 3·3	−·0024
14	43·7	92·6		38·7		−·0010	−·0031	− 1·6	− 3·5	−·0024
20	43·8	92·6		38·5		−·0010	−·0032	− 1·6	− 3·6	−·0024
26	44·0	92·7		38·3		−·0009	−·0032	− 1·5	− 3·8	−·0024
32	44·1	93·1		38·4		−·0008	−·0032	− 1·5	− 4·0	−·0023
38	44·1	93·4		38·4		−·0008	−·0032	− 1·5	− 4·0	−·0023
44	44·1	93·1		38·4		−·0008	−·0032	− 1·6	− 4·0	−·0023
50	44·2	93·5		38·6		−·0007	−·0032	− 1·6	− 4·1	−·0023
56	44·2	93·3		38·3		−·0007	−·0032	− 1·6	− 4·1	−·0023
03 02	44·2	—		—		—	—	− 1·7	—	—

1842.
Toronto.

August 4—5.

TORONTO, 1842. AUGUST 4—5.

MEAN MONTHLY READINGS OF THE MAGNETOMETERS.

Mean Göttingen Time.	Declination.	H. F. at 69°·8.	V. F. at 69°·3.	Mean Göttingen Time.	Declination.	H. F. at 69°·8.	V. F. at 69°·3.
Hours.	Sc. Div.	Sc. Div.	Sc. Div.	Hours.	Sc. Div.	Sc. Div.	Sc. Div.
00	138·7	405·7	53·5	12	132·5	418·1	55·5
01	141·0	404·7	54·2	13	132·0	414·8	55·0
02	140·0	396·5	53·9	14	133·8	412·3	54·7
03	136·5	390·1	53·7	15	133·1	412·0	54·1
04	130·5	387·0	53·2	16	133·1	410·7	54·0
05	125·3	390·6	53·4	17	134·7	412·1	52·3
06	123·3	400·1	53·7	18	133·5	406·9	52·0
07	122·8	408·8	54·2	19	132·0	405·8	52·4
08	124·5	416·1	55·0	20	132·3	407·7	51·7
09	127·0	423·4	55·5	21	132·8	407·6	53·0
10	130·0	422·9	55·9	22	134·3	406·1	53·2
11	131·3	417·1	55·8	23	136·0	405·4	53·3

Coefficients (A), Approximate Absolute Values (B.)

(A) Declin. $a = 0'\cdot721$

H. F. $k = \cdot000074$, $q = \cdot00026$

V. F. $k = \cdot000094$, $q = \cdot00011$

(B) Approx. $\psi = 1°\,19'$, $X = 3\cdot54$, $Y = 13\cdot44$, $\theta = 75°\,16'$, $\phi = 13\cdot90$

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 2m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
4 15 02	138·1	387·2	68·0	62·1	67·5	−·0023	+·0006	+ 3·6	+ 2·4	+·0004
16 02	133·5	411·0	67·5	62·1	67·0	−·0006	+·0005	+ 0·3	+ 0·9	+·0004
17 02	167·9	425·0	67·3	49·4	67·0	+·0003	−·0005	+23·9	+ 0·7	+·0011
26	153·9	425·8		46·7		+·0005	−·0008	+14·2	− 1·1	−·0007
32	147·2	425·1		44·3		+·0005	−·0010	+ 9·5	− 1·3	−·0009
38	140·9	419·9		45·9		+·0001	−·0008	+ 4·9	− 0·8	−·0007
44	136·5	415·5		47·2		−·0002	−·0007	+ 1·8	− 0·3	−·0007
50	134·1	411·0		45·5		−·0005	−·0009	+ 0·3	− 0·3	−·0009
56	134·2	406·0		45·5		−·0008	−·0009	+ 0·4	− 0·1	−·0009
18 02	137·4	409·5	67·0	49·5	67·0	−·0005	−·0005	+ 2·8	0·0	−·0005
08	137·2	415·4		52·0		−·0001	−·0003	+ 2·8	− 0·2	−·0003
14	135·3	415·7		52·0		−·0001	−·0003	+ 1·5	− 0·2	−·0003
20	135·0	413·4		50·9		−·0002	−·0004	+ 1·4	− 0·2	−·0004
26	134·8	406·5		51·8		−·0007	−·0003	+ 1·3	+ 0·3	−·0003
32	137·3	402·0		54·8		−·0011	·0000	+ 3·3	+ 0·9	−·0001
38	139·0	401·4		57·1		−·0011	+·0002	+ 4·6	+ 1·1	+·0001
44	139·1	403·3		57·6		−·0009	+·0003	+ 4·8	+ 1·0	+·0002
50	137·4	405·5		57·3		−·0008	+·0002	+ 3·7	+ 0·9	+·0001
56	135·8	410·5		57·6		−·0004	+·0002	+ 2·7	+ 0·5	+·0002
19 02	134·2	410·9	67·0	57·6	67·0	−·0004	+·0002	+ 1·5	+ 0·5	+·0002
20 02	136·8	419·4	66·4	52·4	66·3	·0000	−·0003	+ 3·3	+ 0·2	+·0003
21 02	137·0	422·2	66·2	57·0	66·0	·0000	·0000	+ 3·0	0·0	·0000
22 02	138·2	405·3	65·5	57·0	65·5	−·0012	−·0001	+ 2·8	+ 0·9	−·0002
23 02	127·7	400·5	65·0	54·0	65·0	−·0016	−·0004	− 6·0	+ 1·0	−·0005
5 00 02	139·5	420·0	64·6	56·6	64·9	·0000	−·0002	+ 0·6	+ 0·1	−·0002
1 02	146·5	423·3	64·6	59·5	64·7	·0000	·0000	+ 4·0	0·0	·0000
17 02	133·0	410·3	69·0	50·9	68·7	−·0003	−·0002	− 1·2	+ 0·1	−·0002
32	146·2	376·8		46·1		−·0024	−·0006	+ 8·7	+ 1·5	−·0007
38	150·0	370·5		45·0		−·0030	−·0007	+11·5	+ 1·9	−·0009
44	151·7	372·5		46·9		−·0028	−·0005	+12·8	+ 1·9	−·0007
50	151·9	366·7		46·0		−·0032	−·0006	+13·1	+ 2·2	−·0008
56	150·4	368·4		45·2		−·0031	−·0006	+12·1	+ 2·1	−·0008
18 02	146·0	377·8	69·2	46·0	69·5	−·0023	−·0005	+ 9·0	+ 1·5	−·0006
08	145·9	374·6		47·0		−·0025	−·0004	+ 9·0	+ 1·8	−·0005
14	147·5	374·3		44·9		−·0026	−·0007	+10·3	+ 1·6	−·0008
20	146·9	384·3		44·9		−·0018	−·0007	+10·0	+ 0·9	−·0008
26	146·0	381·5		40·2		−·0020	−·0011	+ 9·5	+ 0·8	−·0012
32	145·1	379·8		37·8		−·0021	−·0014	+ 8·9	+ 0·6	−·0014
38	143·4	375·8		39·0		−·0024	−·0013	+ 7·8	+ 0·9	−·0014
44	144·7	376·3		39·0		−·0024	−·0013	+ 8·8	+ 0·9	−·0014
50	133·2	371·2		34·5		−·0027	−·0017	+ 0·6	+ 0·9	−·0018
56	124·2	355·3		29·2		−·0039	−·0022	− 5·6	+ 1·4	−·0023

1842.
Toronto.

August 5.

OBSERVATIONS OF THE MAGNETOMETERS. The Declination was observed 2m. before, and the V. F. 2m. after the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta \psi$	$\Delta \theta$	$\frac{\Delta \phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
5 19 02	117·9	338·4	69·2	24·1	68·9	−·0052	−·0027	−10·2	+ 2·1	−·0029
08	112·9	323·9		24·1		−·0062	−·0027	−13·8	+ 3·0	−·0029
14	109·1	326·7		24·1		−·0060	−·0027	−16·6	+ 2·8	−·0029
20	108·1	326·9		22·5		−·0060	−·0028	−17·3	+ 2·7	−·0030
26	114·7	330·3		22·5		−·0058	−·0028	−12·5	+ 2·5	−·0030
32	123·3	346·9		26·1		−·0046	−·0025	− 6·4	+ 1·8	−·0026
38	131·3	377·2		29·8		−·0024	−·0021	− 0·6	+ 0·2	−·0021
44	134·8	392·5		29·8		−·0012	−·0021	+ 1·8	− 0·8	−·0020
50	133·7	404·7		30·8		−·0004	−·0020	+ 1·1	− 1·4	−·0019
56	135·6	412·4		34·8		+·0002	−·0016	+ 2·4	− 1·5	−·0015
20 02	140·6	419·6	69·2	35·3	68·9	+·0007	−·0016	+ 6·0	− 1·9	−·0014
08	139·5	411·1		40·1		+·0001	−·0012	+ 5·1	− 1·1	−·0011
14	137·9	409·6		40·1		−·0001	−·0012	+ 4·0	− 0·9	−·0011
20	137·8	409·2		40·7		−·0001	−·0011	+ 3·8	− 0·9	−·0010
26	136·9	409·1		43·3		−·0001	−·0009	+ 3·2	− 0·7	−·0009
32	135·1	408·7		44·9		−·0002	−·0008	+ 1·8	− 0·5	−·0008
38	134·9	410·1		47·9		−·0001	−·0005	+ 1·6	− 0·3	−·0005
44	134·7	404·7		49·5		−·0005	−·0004	+ 1·4	+ 0·1	−·0004
50	131·9	401·2		50·7		−·0008	−·0003	− 0·6	+ 0·3	−·0003
56	130·4	400·4		52·9		−·0009	−·0001	− 1·7	+ 0·7	−·0001
21 02	128·7	399·9	68·5	52·9	68·3	−·0009	−·0001	− 3·0	+ 0·5	−·0001
22 02	136·0	405·2	68·3	54·0	68·1	−·0005	−·0001	+ 1·2	+ 0·3	−·0001
23 02	137·2	371·6	68·1	52·5	67·8	−·0030	−·0002	+ 0·8	+ 2·4	−·0004

1842.

Cape of Good Hope.
August 6.

For Mean Monthly Readings, *see* page 109.

CAPE OF GOOD HOPE, 1842. AUGUST 6.

6 05 02	42·6	—		—		—	—	− 1·8	—	—
08	—	87·0		66·8		−·0014	−·0003	−	+ 1·8	−·0007
14	41·9	87·8	57·5	66·2	57·7	−·0014	−·0004	− 2·3	+ 1·7	−·0008
20	41·5	88·9		64·9		−·0012	−·0005	− 2·7	+ 1·2	−·0007
26	41·8	89·0		63·5		−·0012	−·0007	− 2·5	+ 0·8	−·0009
32	42·4	89·5		61·7		−·0011	−·0009	− 2·0	+ 0·3	−·0012
38	43·1	90·0		60·8		−·0010	−·0009	− 1·5	+ 0·2	−·0009
44	43·3	90·0		59·7		−·0010	−·0011	− 1·4	− 0·2	−·0011
50	43·9	90·0		58·9		−·0010	−·0011	− 1·0	− 0·2	−·0011
56	44·1	90·5		58·3		−·0009	−·0012	− 0·8	− 0·5	−·0011
06 02	44·2	91·0	57·7	57·7	58·0	−·0009	−·0013	− 0·8	− 0·7	−·0012
08	44·4	91·6		57·4		−·0007	−·0013	− 0·6	− 1·0	−·0011
14	44·3	92·0		56·9		−·0007	−·0014	− 0·7	− 1·2	−·0012
20	44·1	92·2		57·4		−·0006	−·0013	− 0·8	− 1·2	−·0011
26	44·0	92·8		56·9		−·0005	−·0014	− 0·9	− 1·5	−·0011
32	44·0	93·0		56·9		−·0004	−·0014	− 0·9	− 1·7	−·0010
07 02	44·0	—		—		—	—	− 0·9	—	—

1842.
St. Helena.

August 18—19.

ST. HELENA, 1842. AUGUST 18—19.

MEAN MONTHLY READINGS OF THE MAGNETOMETERS.

Mean Göttingen Time.	Declination.	H. F. at 60°·2.	V. F. at 60°·0.	Mean Göttingen Time.	Declination.	H. F. at 60°·2.	V. F. at 60°·0.
Hours.	Sc. Div.	Sc. Div.	Sc. Div.	Hours.	Sc. Div.	Sc. Div.	Sc. Div.
00	20·3	69·9	4·5	12	22·3	62·3	4·6
01	20·8	70·3	—	14	22·4	63·0	4·4
02	20·8	69·0	5·0	15	22·4	63·1	—
03	21·4	67·3	—	16	22·4	62·9	4·2
04	22·0	65·8	5·0	18	23·0	63·3	4·2
05	21·8	64·2	—	19	23·9	63·0	—
06	21·2	63·8	4·9	20	25·3	63·0	4·0
08	21·5	63·0	4·9	21	24·1	64·5	—
10	21·8	62·5	4·6	22	22·1	66·4	4·3
11	22·0	62·3	—	23	20·6	68·5	—

Coefficients (A), Approximate Absolute Values (B.)

(A) Declin. $a = 0'\cdot711$

H. F. $k = \cdot00019$, $q = \cdot00028$

V. F. $k = \cdot0008$, $q = \cdot00002$

(B) Approx. $\psi = 23°\,07'$, $X = 5\cdot57$, $Y = 2\cdot20$, $\theta = -21°\,33'$, $\phi = 6\cdot00$

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 2m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.	
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °
18 23 02	21·0	—		—	
19 00 02	21·8	76·5	58·7	2·0	58·2
08	21·4	77·5		2·0	
14	21·1	78·4		2·0	
20	21·8	78·8		2·0	
26	21·8	79·1		2·0	
32	21·8	79·5		2·0	
38	21·9	79·9		2·0	
44	22·0	80·5		2·0	
50	21·9	81·0		2·0	
56	21·5	81·5		2·0	
01 02	21·0	80·9	59·0	2·0	58·6
08	21·0	80·6		2·0	
14	20·9	80·0		2·0	
20	21·0	80·1		2·0	
26	21·5	79·6		2·2	
32	21·2	78·2		2·2	
38	21·2	77·3		2·2	
44	21·3	76·9		2·2	
50	21·0	76·0		2·2	
56	20·5	74·0		2·1	
02 02	20·2	73·0	59·2	2·1	59·0
08	20·2	72·0		2·1	
14	20·1	70·0		1·9	
20	20·3	68·4		1·9	
26	20·1	66·9		1·9	
32	20·1	65·2		1·9	
38	20·3	64·3		1·9	
44	20·4	63·9		1·9	
50	20·8	63·0		1·4	
56	20·9	62·2		1·7	
03 02	21·0	62·0	59·4	1·7	59·1
08	21·7	61·5		1·8	
14	21·9	61·0		1·8	
20	22·0	60·0		1·8	
26	22·0	59·1		1·9	
32	22·0	58·1		2·0	
38	22·0	57·3		2·0	
44	22·0	57·0		2·0	
50	21·6	56·0		2·0	
56	21·3	56·1		2·0	

Differences from the Mean Monthly Values at the corresponding Hours.

$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
—	—	+ 0·3	—	—
+·0008	−·0021	+ 1·1	− 3·4	+·0004
+·0010	−·0020	+ 0·7	− 3·5	+·0006
+·0012	−·0021	+ 0·5	− 3·9	+·0008
+·0013	−·0021	+ 0·9	− 4·0	+·0008
+·0013	−·0021	+ 0·9	− 4·0	+·0008
+·0014	−·0022	+ 0·8	− 4·2	+·0009
+·0015	−·0022	+ 0·9	− 4·2	+·0010
+·0016	−·0022	+ 0·9	− 4·5	+·0011
+·0017	−·0022	+ 0·8	− 4·6	+·0012
+·0018	−·0022	+ 0·5	− 4·7	+·0013
+·0017	−·0022	+ 0·1	− 4·6	+·0012
+·0016	−·0022	+ 0·1	− 4·5	+·0011
+·0016	−·0022	+ 0·1	− 4·5	+·0011
+·0016	−·0023	+ 0·1	− 4·6	+·0011
+·0015	−·0022	+ 0·5	− 4·2	+·0010
+·0013	−·0022	+ 0·3	− 4·1	+·0008
+·0012	−·0022	+ 0·3	− 4·0	+·0007
+·0011	−·0022	+ 0·4	− 3·9	+·0007
+·0010	−·0022	+ 0·1	− 3·8	+·0006
+·0007	−·0023	− 0·2	− 3·5	+·0003
+·0005	−·0023	− 0·4	− 3·3	+·0001
+·0003	−·0023	− 0·5	− 3·1	−·0001
·0000	−·0025	− 0·6	− 2·8	−·0003
−·0003	−·0025	− 0·5	− 2·6	−·0006
−·0005	−·0025	− 0·6	− 2·4	−·0008
−·0008	−·0025	− 0·7	− 2·0	−·0010
−·0010	−·0025	+ 0·6	− 1·8	−·0012
−·0010	−·0025	− 0·6	− 1·8	−·0012
−·0011	−·0029	− 0·4	− 2·1	−·0013
−·0012	−·0026	− 0·3	− 1·7	−·0014
−·0012	−·0026	− 0·3	− 1·7	−·0014
−·0013	−·0026	+ 0·1	− 1·4	−·0015
−·0014	−·0026	+ 0·3	− 1·4	−·0016
−·0015	−·0026	+ 0·3	− 1·3	−·0016
−·0017	−·0025	+ 0·3	− 0·9	−·0018
−·0018	−·0024	+ 0·2	− 0·7	−·0019
−·0019	−·0024	+ 0·1	− 0·6	−·0020
−·0019	−·0024	+ 0·1	− 0·6	−·0020
−·0020	−·0024	− 0·2	− 0·5	−·0021
−·0020	−·0024	− 0·4	− 0·5	−·0021

1842.
St. Helena.

August 19.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 2m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
19 04 02	21·2	56·0	59·6	2·0	59·2	−·0020	−·0024	− 0·6	− 0·5	−·0021
08	21·0	55·1		2·0		−·0022	−·0024	− 0·7	− 0·2	−·0022
14	21·0	54·9		2·3		−·0022	−·0022	− 0·7	0·0	−·0022
20	21·0	53·9		2·2		−·0023	−·0022	− 0·6	+ 0·1	−·0023
26	21·0	53·0		2·2		−·0025	−·0022	− 0·6	+ 0·2	−·0025
32	20·8	52·2		2·1		−·0026	−·0023	− 0·8	+ 0·2	−·0026
38	20·8	51·6		2·2		−·0026	−·0022	− 0·8	+ 0·5	−·0025
44	20·2	51·0		2·2		−·0027	−·0022	− 1·2	+ 0·6	−·0026
50	20·0	50·6		2·0		−·0028	−·0024	− 1·3	+ 0·5	−·0027
56	19·7	50·7		2·0		−·0027	−·0024	− 1·5	+ 0·2	−·0027
05 02	19·9	50·5	59·8	2·0	59·2	−·0027	−·0024	− 1·3	+ 0·2	−·0027
08	20·5	50·9		1·8		−·0026	−·0026	− 0·8	0·0	−·0026
14	20·6	51·4		1·8		−·0026	−·0026	− 0·8	0·0	−·0026
20	20·6	52·6		1·8		−·0023	−·0026	− 0·7	− 0·2	−·0023
26	20·5	53·9		1·8		−·0021	−·0026	− 0·8	− 0·6	−·0022
32	20·5	54·2		1·8		−·0020	−·0025	− 0·7	− 0·6	−·0021
38	20·2	54·4		1·7		−·0020	−·0026	− 0·8	− 0·7	−·0021
44	19·9	54·4		1·7		−·0020	−·0026	− 1·1	− 0·7	−·0021
50	19·7	54·4		1·6		−·0020	−·0026	− 1·1	− 0·7	−·0021
56	19·4	54·4		1·6		−·0020	−·0026	− 1·3	− 0·7	−·0021
06 02	19·3	54·2	59·6	1·5	59·2	−·0020	−·0027	− 1·3	− 0·8	−·0021
08	19·0	53·9		1·5		−·0021	−·0027	− 1·5	− 0·7	−·0022
14	19·0	52·0		1·5		−·0024	−·0027	− 1·5	− 0·2	−·0024
20	19·0	52·0		1·5		−·0024	−·0027	− 1·6	− 0·2	−·0024
26	18·7	52·2		1·5		−·0024	−·0027	− 1·8	− 0·2	−·0024
32	18·6	52·8		1·5		−·0023	−·0027	− 1·9	− 0·5	−·0024
38	18·6	53·9		1·5		−·0021	−·0027	− 1·9	− 0·7	−·0022
44	18·6	54·8		1·7		−·0019	−·0026	− 1·9	− 0·8	−·0020
50	19·0	54·5		1·7		−·0019	−·0026	− 1·7	− 0·8	−·0020
56	19·1	53·8		1·7		−·0021	−·0026	− 1·6	− 0·6	−·0022
07 02	19·2	53·0	59·4	1·7	59·1	−·0022	−·0026	− 1·5	− 0·5	−·0023
08	19·3	52·8		1·7		−·0022	−·0026	− 1·5	− 0·5	−·0023
14	19·3	52·8		1·7		−·0022	−·0026	− 1·5	− 0·5	−·0023
20	19·6	52·9		1·8		−·0022	−·0025	− 1·3	− 0·2	−·0022
26	19·6	53·4		1·8		−·0021	−·0025	− 1·3	− 0·5	−·0022
32	19·8	53·8		1·8		−·0021	−·0025	− 1·2	− 0·5	−·0022
38	20·0	54·0		1·8		−·0020	−·0025	− 1·1	− 0·6	−·0021
44	20·1	54·9		1·8		−·0018	−·0025	− 1·0	− 0·8	−·0019
50	20·0	55·5		1·8		−·0017	−·0025	− 1·1	− 0·9	−·0018
56	20·6	56·2		1·8		−·0016	−·0025	− 0·6	− 0·9	−·0017
08 02	20·5	56·4	59·2	1·8	59·0	−·0015	−·0025	− 0·7	− 1·2	−·0016
32	20·9	57·2		(a) 1·8		−·0014	−·0024	− 0·5	− 1·2	−·0015
09 02	21·1	58·7	59·1	(a) 2·2	58·9	−·0011	−·0021	− 0·4	− 1·2	−·0012
32	22·2	62·0		(a) 2·2		−·0004	−·0020	+ 0·3	− 1·9	−·0006
10 02	22·9	61·9	59·0	(a) 2·1	58·7	−·0005	−·0020	+ 0·8	− 1·8	−·0007
32	21·9	60·2		(a) 2·1		−·0008	−·0020	0·0	− 1·4	−·0010
11 02	21·5	57·5	59·0	(a) 1·8	58·6	−·0013	−·0022	− 0·4	− 0·9	−·0014
32	21·1	58·2		(a) 1·8		−·0012	−·0022	− 0·8	− 1·2	−·0013
12 02	21·1	59·0	58·7	(a) 1·9	58·4	−·0011	−·0022	− 0·8	− 1·3	−·0012
32	21·2	60·5		(a) 1·9		−·0008	−·0021	− 0·8	− 1·4	−·0010
13 02	21·7	60·9	58·6	(a) 2·1	58·3	−·0008	−·0019	− 0·5	− 1·3	−·0009

1842.
Toronto.

August 19.

For Mean Monthly Readings, *see* page 110.

TORONTO, 1842. AUGUST 19.

19 01 02	152·8	420·7	69·8	52·1	70·0	+·0012	−·0001	+ 8·5	− 1·1	·0000
02 02	132·6	379·4	69·7	49·0	70·1	−·0013	−·0004	− 5·3	+ 0·8	−·0005
26	129·0	383·9		45·1		−·0007	−·0007	− 6·9	0·0	−·0007
32	124·9	377·2		43·8		−·0012	−·0008	− 9·6	+ 0·3	−·0008
38	124·7	381·0		43·8		−·0008	−·0008	− 9·5	0·0	−·0008
44	123·9	378·2		43·4		−·0010	−·0009	− 9·8	+ 0·1	−·0009
50	124·9	377·1		43·4		−·0010	−·0009	− 8·8	+ 0·1	−·0009
56	128·3	382·0		45·2		−·0006	−·0007	− 6·2	− 0·1	−·0007

(a) Observed 4m. before the times specified.

1842.
Toronto.

August 19.

OBSERVATIONS OF THE MAGNETOMETERS. The Declination was observed 2m. before, and the V. F. 2m. after the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta \psi$	$\Delta \theta$	$\frac{\Delta \phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
19 03 02	133·0	389·4	70·2	45·7	70·3	+·0001	−·0006	− 2·6	− 0·6	−·0006
08	132·5	383·4		46·0		−·0004	−·0006	− 2·5	− 0·2	−·0006
14	131·5	374·6		46·3		−·0010	−·0006	− 2·8	+ 0·3	−·0006
20	132·8	374·2		46·3		−·0010	−·0006	− 1·3	+ 0·3	−·0006
26	130·8	372·1		46·3		−·0011	−·0006	− 2·4	+ 0·3	−·0006
32	128·1	370·1		46·8		−·0012	−·0005	− 3·9	+ 0·6	−·0005
38	125·7	366·7		46·4		−·0014	−·0005	− 5·1	+ 0·8	−·0006
44	124·6	369·6		47·0		−·0012	−·0005	− 5·5	+ 0·6	−·0005
50	123·6	366·3		46·8		−·0012	−·0005	− 5·9	+ 0·6	−·0005
56	120·6	357·9		46·3		−·0020	−·0005	− 7·6	+ 1·3	−·0006
04 02	121·0	352·1	70·5	47·2	70·3	−·0024	−·0004	− 6·9	+ 1·7	−·0005
08	121·3	355·4		47·2		−·0022	−·0004	− 6·3	+ 1·5	−·0005
14	119·8	345·4		47·6		−·0030	−·0004	− 7·0	+ 2·2	−·0006
20	120·7	344·9		47·6		−·0030	−·0004	− 5·9	+ 2·2	−·0006
26	116·6	344·9		48·0		−·0030	−·0004	− 8·5	+ 2·2	−·0006
32	113·3	352·1		48·4		−·0025	−·0003	−10·5	+ 1·9	−·0004
38	110·1	359·0		48·3		−·0021	−·0003	−12·4	+ 1·5	−·0004
44	109·1	361·5		47·9		−·0019	−·0004	−12·8	+ 1·3	−·0005
50	106·2	360·9		47·0		−·0020	−·0005	−14·5	+ 1·3	−·0006
56	103·1	366·0		47·1		−·0016	−·0005	−16·3	+ 0·9	−·0006
05 02	100·9	363·5	70·5	46·5	70·5	−·0018	−·0005	−17·6	+ 1·1	−·0006
08	97·5	358·3		46·5		−·0023	−·0005	−19·8	+ 1·5	−·0006
14	99·2	366·9		47·3		−·0017	−·0004	−18·5	+ 1·1	−·0005
20	102·9	384·6		48·1		−·0005	−·0004	−15·7	+ 0·1	−·0004
26	105·1	389·1		47·8		−·0002	−·0004	−14·0	− 0·2	−·0004
32	107·9	385·9		47·8		−·0005	−·0004	−11·8	+ 0·1	−·0004
38	110·7	389·5		48·4		−·0003	−·0004	− 9·7	− 0·1	−·0004
44	111·3	389·0		48·9		−·0004	−·0003	− 9·0	+ 0·1	−·0003
50	111·0	389·7		48·9		−·0004	−·0003	− 9·1	+ 0·1	−·0003
56	111·3	388·2		49·6		−·0006	−·0003	− 8·7	+ 0·2	−·0003
06 02	110·6	387·0	70·7	50·0	70·5	−·0007	−·0002	− 9·1	+ 0·3	−·0002
08	112·8	390·8		50·5		−·0005	−·0002	− 7·5	+ 0·2	−·0002
14	113·1	389·2		51·0		−·0007	−·0001	− 7·3	+ 0·5	−·0001
20	110·8	392·4		51·0		−·0005	−·0001	− 8·8	+ 0·3	−·0001
26	109·1	401·0		51·3		+·0001	−·0001	−10·1	− 0·2	−·0001
32	108·0	396·3		51·1		−·0003	−·0001	−10·8	+ 0·2	−·0001
38	109·6	396·4		50·9		−·0003	−·0002	− 9·7	+ 0·1	−·0002
44	112·4	409·6		52·5		+·0006	·0000	− 7·6	− 0·5	·0000
50	116·5	421·4		53·4		+·0015	+·0001	− 4·6	− 1·2	+·0002
56	118·2	424·6		53·7		+·0017	+·0001	− 3·3	− 1·4	+·0002
07 02	118·4	423·5	71·5	53·7	70·5	+·0015	+·0001	− 3·2	− 1·2	+·0002
08	115·3	414·7		52·9		+·0008	·0000	− 5·5	− 0·7	·0000
14	113·3	405·0		52·4		·0000	·0000	− 7·1	0·0	·0000
20	112·3	402·6		52·2		−·0002	−·0001	− 7·9	+ 0·1	−·0001
26	113·4	400·4		52·2		−·0004	−·0001	− 7·3	+ 0·2	−·0001
32	114·5	405·8		52·2		−·0001	−·0001	− 6·6	0·0	−·0001
38	116·4	407·0		52·2		−·0001	−·0001	− 5·3	0·0	−·0001
44	117·2	410·2		51·6		+·0001	−·0001	− 4·9	− 0·2	−·0001
50	118·2	409·2		51·6		·0000	−·0001	− 4·3	− 0·1	−·0001
56	120·0	416·5		51·6		+·0005	−·0001	− 3·1	− 0·5	−·0001
08 02	120·6	415·2	71·2	51·2	70·8	+·0003	−·0002	− 2·8	− 0·3	−·0002
08	121·0	415·5		51·4		+·0003	−·0002	− 2·8	− 0·3	−·0002
14	121·3	428·7		53·4		+·0012	·0000	− 2·7	− 1·0	+·0001
20	122·3	429·0		52·8		+·0012	−·0001	− 2·2	− 1·1	·0000
26	124·0	425·9		53·2		+·0009	·0000	− 1·1	− 0·8	+·0001
32	124·1	434·3		54·5		+·0015	+·0001	− 1·2	− 1·2	+·0002
38	124·6	442·9		55·6		+·0021	+·0002	− 1·0	− 1·6	+·0003
44	124·7	443·7		55·0		+·0021	+·0001	− 1·1	− 1·7	+·0002
50	125·1	443·1		55·4		+·0020	+·0002	− 1·0	− 1·5	+·0003
56	125·1	442·1		56·2		+·0019	+·0003	− 1·2	− 1·4	+·0004
09 02	125·1	449·1	71·5	57·6	71·0	+·0023	+·0004	− 1·3	− 1·6	+·0005
08	126·2	445·5		57·8		+·0021	+·0004	− 0·8	− 1·4	+·0005
14	129·1	439·1		59·2		+·0016	+·0005	+ 1·1	− 0·9	+·0006
20	129·0	450·7		59·6		+·0025	+·0006	+ 0·8	− 1·6	+·0007

1842.
Toronto.

August 19.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 2m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours. $\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
19 09 26	135·4	431·2		60·1		+·0011	+·0006	+ 5·1	− 0·3	+·0006
32	141·7	420·3		62·4		+·0003	+·0008	+ 9·5	+ 0·3	+·0008
38	149·5	439·9		64·0		+·0017	+·0010	+14·9	− 0·6	+·0010
44	149·0	444·2		62·8		+·0020	+·0009	+14·3	− 0·9	+·0010
50	151·9	453·3		63·3		+·0027	+·0009	+16·2	− 1·5	+·0010
56	149·9	453·2		62·2		+·0027	+·0008	+14·5	− 1·6	+·0009
10 02	143·4	435·7	71·6	61·4	71·3	+·0014	+·0007	+ 9·7	− 0·6	+·0007
08	143·3	438·6		61·1		+·0017	+·0007	+ 9·5	− 0·9	+·0008
14	142·2	442·5		61·9		+·0020	+·0008	+ 8·5	− 1·0	+·0009
20	144·1	436·7		61·0		+·0016	+·0007	+ 9·9	− 0·8	+·0008
26	145·4	424·9		61·0		+·0008	+·0007	+10·7	− 0·1	+·0007
32	142·1	413·8		59·6		·0000	+·0006	+ 8·2	+ 0·5	+·0006
38	137·6	401·8		58·3		−·0008	+·0004	+ 4·9	+ 1·0	+·0003
44	134·1	399·5		58·3		−·0009	+·0004	+ 2·3	+ 1·1	+·0003
50	133·0	396·9		58·1		−·0011	+·0004	+ 1·4	+ 1·3	+·0003
56	131·0	396·3		57·5		−·0011	+·0004	− 0·1	+ 1·3	+·0003
11 02	131·4	395·9	71·8	57·5	71·1	−·0011	+·0004	+ 0·1	+ 1·3	+·0003
08	130·4	397·4		55·6		−·0009	+·0002	− 0·7	+ 0·9	+·0001
14	129·0	391·6		53·6		−·0014	·0000	− 1·8	+ 1·2	−·0001
20	129·0	390·2		53·6		−·0015	·0000	− 1·9	+ 1·3	−·0001
26	129·8	390·0		53·6		−·0015	·0000	− 1·4	+ 1·3	−·0001
32	130·8	394·0		53·6		−·0012	·0000	− 0·8	+ 1·0	−·0001
38	130·8	391·2		53·0		−·0014	−·0001	− 0·8	+ 1·1	−·0002
44	130·4	391·0		53·0		−·0014	−·0001	− 1·2	+ 1·1	−·0002
50	130·8	390·3		53·0		−·0015	−·0001	− 1·1	+ 1·2	−·0002
56	130·8	389·3		53·0		−·0016	−·0001	− 1·1	+ 1·3	−·0002
12 02	131·2	389·6	72·0	53·0	71·0	−·0015	−·0001	− 0·9	+ 1·2	−·0002
13 02	132·5	399·4	71·8	53·0	71·4	−·0006	−·0001	+ 0·4	+ 0·4	−·0001

1842.
Cape of Good Hope.

August 19.

For Mean Monthly Readings *see* page 109.

CAPE OF GOOD HOPE, 1842. AUGUST 19 and 24.

19 02 02	45·1	93·8	58·9	67·7	58·9	·0000	+·0002	− 0·5	+ 0·3	+·0001
03 02	45·0	85·0	58·9	76·9	59·1	−·0015	+·0012	− 1·1	+ 4·4	+·0002
08	45·7	85·2		75·9		−·0015	+·0010	− 0·5	+ 4·1	+·0001
14	46·0	85·0		75·9		−·0015	+·0010	− 0·2	+ 4·1	+·0001
20	46·0	84·8		75·9		−·0016	+·0010	− 0·2	+ 4·3	+·0001
26	46·7	84·1		75·9		−·0017	+·0009	+ 0·4	+ 4·3	·0000
32	47·0	83·5		76·6		−·0018	+·0010	+ 0·6	+ 4·6	·0000
38	47·1	83·0		77·0		−·0019	+·0010	+ 0·7	+ 4·8	·0000
44	47·2	82·8		77·9		−·0019	+·0011	+ 0·8	+ 4·9	·0000
50	46·6	83·0		78·7		−·0019	+·0012	+ 0·4	+ 5·1	·0000
56	46·0	83·2		78·7		−·0018	+·0011	0·0	+ 4·8	+·0001
04 02	46·2	83·1	59·0	78·4	59·1	−·0019	+·0011	+ 0·2	+ 4·9	·0000
08	46·4	83·0		78·6		−·0019	+·0011	+ 0·4	+ 4·9	·0000
14	46·9	82·7		77·9		−·0019	+·0010	+ 0·8	+ 4·8	·0000
20	47·5	81·0		78·6		−·0022	+·0011	+ 1·4	+ 5·4	−·0001
26	47·0	80·2		80·6		−·0024	+·0013	+ 1·1	+ 6·1	·0000
32	46·1	80·8		80·6		−·0024	+·0013	+ 0·5	+ 6·1	·0000
38	46·3	80·0		80·7		−·0024	+·0013	+ 0·7	+ 6·1	·0000
44	45·6	79·2		82·4		−·0026	+·0014	+ 0·2	+ 6·6	·0000
50	44·8	79·7		81·9		−·0025	+·0014	− 0·3	+ 6·4	·0000
56	44·8	79·7		81·7		−·0025	+·0013	− 0·2	+ 6·3	−·0001
05 02	44·4	80·2	59·1	80·9	59·1	−·0024	+·0013	− 0·5	+ 6·1	·0000
08	44·8	80·9		79·5		−·0022	+·0011	− 0·2	+ 5·4	−·0001
14	45·0	81·3		78·4		−·0021	+·0010	0·0	+ 5·1	−·0001
20	45·1	82·0		76·9		−·0020	+·0009	0·0	+ 4·8	−·0001
26	45·2	83·1		76·6		−·0018	+·0009	+ 0·1	+ 4·4	−·0001
32	45·2	83·9		75·2		−·0017	+·0007	+ 0·1	+ 4·0	−·0002
38	45·2	84·1		74·5		−·0016	+·0006	+ 0·1	+ 3·6	−·0002
44	45·2	83·9		74·2		−·0016	+·0006	+ 0·1	+ 3·6	−·0002
50	45·4	83·6		73·7		−·0017	+·0006	+ 0·2	+ 3·8	−·0002
56	46·0	82·9		73·8		−·0018	+·0006	+ 0·6	+ 4·0	−·0003

1842.
Cape of Good Hope.

August 19 and 24.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 2m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
						$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
19 06 02	46·0	82·1	59·6	74·3	59·7	−·0019	+·0007	+ 0·6	+ 4·3	−·0002
08	45·9	81·6		74·8		−·0020	+·0007	+ 0·5	+ 4·4	−·0003
14	46·1	79·2		74·8		−·0024	+·0007	+ 0·7	+ 5·1	−·0004
20	46·3	79·1		74·0		−·0024	+·0006	+ 0·8	+ 4·9	−·0005
26	45·8	79·6		77·3		−·0023	+·0010	+ 0·5	+ 5·4	−·0002
32	45·0	80·2		77·3		−·0022	+·0010	− 0·2	+ 5·3	−·0001
38	44·8	81·4		76·7		−·0019	+·0009	− 0·3	+ 4·6	−·0001
44	44·1	83·0		76·1		−·0017	+·0008	− 0·8	+ 4·1	−·0001
50	44·0	82·6		75·8		−·0017	+·0008	− 0·9	+ 4·1	−·0001
56	44·0	81·2		76·4		−·0019	+·0009	− 0·9	+ 4·6	−·0001
07 02	43·8	80·3	59·7	76·4	59·6	−·0021	+·0009	− 1·1	+ 4·9	−·0002
08	44·0	79·9		76·9		−·0022	+·0009	− 0·9	+ 5·1	−·0002
14	43·8	79·7		77·5		−·0022	+·0010	− 1·1	+ 5·3	−·0001
20	43·5	79·8		77·9		−·0022	+·0010	− 1·4	+ 5·3	−·0001
26	43·1	80·2		77·5		−·0021	+·0010	− 1·7	+ 5·1	−·0001
32	43·2	80·9		76·6		−·0020	+·0009	− 1·7	+ 4·8	−·0001
38	43·8	81·5		75·6		−·0019	+·0008	− 1·2	+ 4·4	−·0002
44	44 1	82·1		74·5		−·0018	+·0007	− 1·0	+ 4·1	−·0002
50	44·2	83·2		73·0		−·0016	+·0005	− 0·9	+ 3·5	−·0002
56	45·0	83·9		72·0		−·0015	+·0004	− 0·4	+ 3·1	−·0003
08 02	45·0	84·2	59·6	71·7	59·6	−·0004	+·0004	− 0·4	+ 3·0	−·0002
08	45·0	84·9		71·4		−·0013	+·0004	− 0·4	+ 2·8	−·0002
14	44·7	—		—		—	—	− 0·6	—	—
09 02	40·9	95·0	57·3	65·6	57·7	−·0001	−·0003	− 3·5	− 0·3	−·0002
10 02	48·6	93·2	58·8	64·8	58·8	−·0001	−·0004	+ 2·3	− 0·5	−·0003
08	47·9	94·7		65·6		+·0001	−·0003	+ 1·8	− 0·7	−·0002
14	47·3	95·1		66·5		+·0002	−·0002	+ 1·4	− 0·7	−·0001
20	46·9	94·4		67·3		+·0001	−·0001	+ 1·1	− 0·3	−·0001
26	46·4	92·2		68·4		−·0003	·0000	+ 0·7	+ 0·5	−·0001
32	46·0	91·3		70·0		−·0005	+·0002	+ 0·4	+ 1·2	·0000
38	45·8	88·8		72·1		−·0009	+·0004	+ 0·2	+ 2·1	−·0001
44	45·0	88·1		73·7		−·0011	+·0006	− 0·4	+ 2·8	·0000
50	44·2	88·1		74·2		−·0011	+·0007	− 1·0	+ 3·0	+·0001
56	43·8	88·7		73·6		−·0010	+·0006	− 1·3	+ 2·6	·0000
11 02	43·9	89·1	58·8	72·6	58·9	−·0009	+·0005	− 1·2	+ 2·3	·0000
08	43·9	89·2		71·9		−·0009	+·0004	− 1·2	+ 2·1	−·0001
14	44·0	89·2		71·2		−·0009	+·0004	− 1·2	+ 2·1	−·0001
20	43·8	89·0		71·2		−·0009	+·0004	− 1·4	+ 2·1	−·0001
26	44·0	89·0		71·3		−·0009	+·0004	− 1·3	+ 2·1	−·0001
32	43·9	89·2		71·3		−·0009	+·0004	− 1·4	+ 2·1	−·0001
38	43·8	89·7		71·3		−·0008	+·0004	− 1·4	+ 2·0	·0000
44	43·9	89·7		70·9		−·0008	+·0004	− 1·4	+ 2·0	·0000
50	43·8	89·6		71·2		−·0008	+·0004	− 1·5	+ 2·0	·0000
56	44·0	89·7		70·4		−·0008	+·0003	− 1·4	+ 1·8	−·0001
12 02	44·5	90·0	58·9	66·7	58·9	−·0007	−·0002	− 1·1	+ 0·8	−·0004
24 05 02	43·1	87·0	58·7	74·5	58·8	−·0013	+·0006	− 1·4	+ 3·1	−·0001
14	—	87·2		76·9		−·0013	+·0008	—	+ 3·5	+·0001
20	42·7	87·7		75·4		−·0011	+·0007	− 1·8	+ 3·0	+·0001
26	42·8	88·3		74·9		−·0010	+·0006	− 1·7	+ 2·6	·0000
32	42·5	89·0		73·8		−·0008	+·0005	− 2·0	+ 2·1	·0000
38	42·8	89·0		72·6		−·0008	+·0004	− 1·7	+ 2·0	·0000
44	43·0	90·2		71·9		−·0006	+·0003	− 1·6	+ 1·5	·0000
50	42·8	90·3		70·9		−·0005	+·0002	− 1·8	+ 1·2	·0000
56	43·1	90·3		69·8		−·0005	+·0001	− 1·6	+ 1·0	−·0001
06 02	43·1	90·4	59·4	69·8	59·3	− 0005	+·0001	− 1·6	+ 1·0	−·0001
08	43·0	90·6		69·8		−·0004	·0000	− 1·7	+ 0·7	−·0001
14	43·7	90·8		67·8		−·0004	−·0001	− 1·1	+ 0·5	−·0002
20	44·4	90·8		67·0		−·0003	−·0002	− 0·6	+ 0·2	−·0002
26	44·8	90·9		66·9		−·0003	−·0002	− 0·3	+ 0·2	−·0002
32	44·9	91·4		66·2		−·0002	−·0003	− 0·2	− 0·2	−·0003
38	45·1	—		—		—	—	− 0·1	—	—
07 02	44·9	91·2	59·6	67·9	59·5	−·0002	−·0001	− 0·2	+ 0·2	−·0001

TORONTO, 1842. SEPTEMBER 1—2.

MEAN MONTHLY READINGS OF THE MAGNETOMETERS.

Mean Göttingen Time.	Declination.	H. F. at 63°·3.	V. F. at 63°·0.	Mean Göttingen Time.	Declination.	H. F. at 63°·3.	V. F. at 63°·0.
Hours.	Sc. Div.	Sc. Div.	Sc. Div.	Hours.	Sc. Div.	Sc. Div.	Sc. Div.
00	138·1	425·5	57·5	12	131·9	426·9	60·3
01	139·9	421·8	57·9	13	133·5	425·5	59·5
02	138·4	415·4	57·5	14	134·8	425·6	59·5
03	135·9	407·4	57·4	15	133·8	427·0	59·0
04	132·0	404·2	57·8	16	133·3	424·7	58·4
05	127·3	407·5	57·8	17	133·7	423·3	57·5
06	125·0	412·4	58·0	18	134·1	425·1	55·9
07	124·3	419·5	58·6	19	134·3	423·0	55·8
08	125·1	424·8	59·8	20	133·2	420·3	55·9
09	128·0	429·0	60·2	21	136·0	420·6	55·6
10	129·6	432·7	60·5	22	135·6	420·1	56·0
11	131·6	427·9	60·2	23	135·0	423·4	55·3

Coefficients (A), Approximate Absolute Values (B.)

(A) Declin. $a = 0'\cdot721$

H. F. $k = \cdot000074$, $q = \cdot00026$

V. F. $k = \cdot000094$, $q = \cdot00011$

(B) Approx. $\psi = 1°\,19'$, X = 3·54, Y = 13·44, $\theta = 75°\,16'$, $\phi = 13\cdot90$

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 2m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm.	Sc. Div.	Therm.	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
1 19 02	132·6	384·0	74·8	43·5	74·7	+·0001	+·0002	− 4·0	+ 0·1	+·0002
20 02	128·0	357·3	74·6	31·0	74·5	−·0017	−·0010	− 3·7	+ 0·6	−·0010
14	129·7	383·3		35·1		+·0002	−·0007	− 3·0	− 0·8	−·0006
20	128·8	369·2		25·6		−·0009	−·0016	− 3·7	− 0·6	−·0016
26	129·6	372·8		22·4		−·0006	−·0018	− 3·4	− 1·0	−·0017
32	134·0	370·0		17·9		−·0008	−·0022	− 0·4	− 1·2	−·0021
38	134·0	370·9		27·8		−·0008	−·0013	− 0·6	− 0·3	−·0013
44	138·1	368·5		23·5		−·0009	−·0017	+ 2·0	− 0·7	−·0017
50	143·1	373·4		27·4		−·0006	−·0013	+ 5·5	− 0·6	−·0013
56	146·5	381·2		30·3		·0000	−·0010	+ 7·8	− 0·9	−·0009
21 02	154·1	386·9	74·5	34·5	75·1	+·0004	−·0006	+13·1	− 0·9	−·0005
08	155·6	392·4		35·1		+·0008	−·0006	+14·1	− 1·2	−·0005
14	152·0	391·5		38·1		+·0008	−·0003	+11·6	− 0·9	−·0002
20	147·4	388·8		40·4		+·0006	−·0001	+ 8·3	− 0·6	−·0001
26	145·3	384·4		39·3		+·0002	−·0002	+ 6·9	− 0·3	−·0002
32	143·0	375·5		32·2		−·0004	−·0009	+ 5·1	− 0·3	−·0009
38	145·4	373·4		36·7		−·0006	−·0005	+ 6·9	+ 0·1	−·0005
44	145·4	367·3		35·6		−·0011	−·0006	+ 7·0	+ 0·3	−·0006
50	148·4	363·3		34·8		−·0014	−·0007	+ 9·1	+ 0·6	−·0007
56	152·2	366·0		32·4		−·0012	−·0009	+11·9	+ 0·2	−·0009
22 02	153·2	362·8	74·2	31·3	74·9	−·0014	−·0010	+12·6	+ 0·3	−·0010
08	147·7	351·6		27·6		−·0023	−·0014	+ 8·7	+ 0·8	−·0015
14	142·4	—		—		—	—	+ 4·9	—	—
20	137·0	351·2		29·2		−·0024	−·0012	+ 1·1	+ 1·0	−·0013
26	136·5	363·7		29·1		−·0015	−·0012	+ 0·8	+ 0·2	−·0012
32	134·0	366·0		28·9		−·0014	−·0012	− 0·9	+ 0·2	−·0012
38	134·6	375·9		28·9		−·0007	−·0012	− 0·4	− 0·3	−·0012
44	136·1	379·6		33·8		−·0005	−·0008	+ 0·6	− 0·2	−·0008
50	135·9	389·9		35·3		+·0002	−·0006	+ 0·6	− 0·7	−·0006
56	137·4	389·7		35·4		−·0002	−·0006	+ 1·6	− 0·3	−·0006
23 02	138·8	393·8	73·5	42·1	74·1	+·0005	·0000	+ 2·8	− 0·3	·0000
08	139·6	398·3		38·1		+·0008	−·0004	+ 3·1	− 1·0	−·0003
14	141·2	402·5		38·1		+·0011	−·0004	+ 4·0	− 1·3	−·0003
20	138·8	399·8		38·1		+·0008	−·0005	+ 2·0	− 1·1	−·0004
26	140·5	398·3		38·1		+·0007	−·0005	+ 3·1	− 1·0	−·0004
32	141·3	394·2		37·9		+·0004	−·0005	+ 3·4	− 0·8	−·0004
38	140·6	395·1		42·9		+·0004	−·0001	+ 2·7	− 0·3	−·0001
44	141·4	396·3		43·3		+·0005	−·0001	+ 3·0	− 0·5	−·0001
50	143·9	396·2		47·4		+·0005	+·0003	+ 4·6	− 0·2	+·0003
56	143·9	395·6		47·4		+·0004	+·0002	+ 4·4	− 0·2	+·0002
2 00 02	143·6	396·0	73·3	47·4	73·5	+·0004	+·0002	+ 4·0	− 0·2	+·0002
01 02	143·0	402·2	73·2	46·3	72·6	+·0011	·0000	+ 2·3	− 0·9	+·0001
02 02	142·4	394·2	72·0	47·5	71·6	+·0007	·0000	+ 2·9	− 0·6	·0000

1842.
Toronto.

September 2.

OBSERVATIONS OF THE MAGNETOMETERS. The Declination was observed 2m. before, and the V. F. 2m. after the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta \psi$	$\Delta \theta$	$\frac{\Delta \phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
2 03 02	136·5	365·9	72·0	45·8	71·5	−·0008	−·0001	+ 0·4	+ 0·6	−·0001
14	123·5	369·3		47·6		−·0005	·0000	− 8·3	+ 0·3	·0000
20	124·0	370·3		47·6		−·0004	·0000	− 7·7	+ 0·3	·0000
26	124·1	371·3		47·6		−·0003	·0000	− 7·3	+ 0·2	·0000
32	126·5	371·0		47·9		−·0003	+·0001	− 5·3	+ 0·3	+·0001
38	128·0	370·5		47·9		−·0003	+·0001	− 4·0	+ 0·3	+·0001
44	128·2	370·5		47·9		−·0003	+·0001	− 3·6	+ 0·3	+·0001
50	128·7	369·2		47·9		−·0004	+·0001	− 3·0	+ 0·3	+·0001
56	128·8	371·4		48·6		−·0002	+·0001	− 2·6	+ 0·2	+·0001
04 02	129·3	374·8	72·0	49·1	71·9	+·0001	+·0002	− 1·9	+ 0·1	+·0002
08	128·0	376·4		49·1		+·0002	+·0002	− 2·6	0·0	+·0002
14	127·6	377·8		49·1		+·0003	+·0002	− 2·6	− 0·1	+·0002
20	126·1	374·9		49·1		+·0001	+·0002	− 3·3	+ 0·1	+·0002
26	126·6	377·4		49·1		+·0002	+·0002	− 2·6	0·0	+·0002
32	124·6	376·5		48·8		+·0002	+·0002	− 3·6	0·0	+·0002
38	123·4	378·5		48·8		+·0003	+·0002	− 4·2	− 0·1	+·0002
44	123·8	386·0		50·1		+·0009	+·0003	− 3·5	− 0·5	+·0003
50	120·7	386·6		49·3		+·0009	+·0002	− 5·4	− 0·6	+·0002
56	119·8	382·4		48·5		+·0006	+·0001	− 5·8	− 0·3	+·0001
05 02	121·4	381·0	72·6	47·9	72·2	+·0005	+·0001	− 4·2	− 0·3	+·0001
08	121·9	377·7		47·3		+·0002	·0000	− 3·7	− 0·2	·0000
14	124·2	386·3		47·7		+·0008	+·0001	− 1·8	− 0·6	+·0001
20	123·8	387·4		47·7		+·0008	+·0001	− 2·0	− 0·6	+·0001
26	124·0	383·5		47·3		+·0005	·0000	− 1·7	− 0·3	·0000
32	126·3	385·8		47·4		+·0007	·0000	+ 0·1	− 0·6	·0000
38	126·2	388·2		47·5		+·0008	+·0001	+ 0·2	− 0·6	+·0001
44	125·8	391·2		47·5		+·0010	+·0001	+ 0·1	− 0·8	+·0002
50	126·3	390·5		47·2		+·0009	·0000	+ 0·6	− 0·8	+·0001
56	125·4	392·6		47·3		+·0010	·0000	+ 0·1	− 0·9	+·0001
06 02	122·9	388·1	72·8	47·3	72·4	+·0007	+·0001	− 1·5	− 0·5	+·0001
07 02	123·7	394·6	72·7	49·3	72·4	+·0006	+·0002	− 0·4	− 0·3	+·0002
08 02	123·1	407·2	72·6	52·8	72·3	+·0011	+·0004	− 1·4	− 0·6	+·0004
09 02	124·5	393·3	72·8	55·3	72·3	−·0002	+·0006	− 2·6	+ 0·7	+·0006
10 02	128·0	414·1	72·5	54·2	72·3	+·0010	+·0005	− 1·1	− 0·4	+·0005
11 02	129·0	402·2	72·5	55·6	72·3	+·0005	+·0006	− 1·8	+ 0·1	+·0006
12 02	131·3	385·0	72·5	54·5	72·3	−·0007	+·0004	− 0·4	+ 0·9	+·0003
13 02	155·0	367·7	72·0	53·0	71·5	−·0020	+·0003	+15·5	+ 1·9	+·0001
26	146·0	381·0		49·9		−·0010	+·0001	+ 8·6	+ 0·9	·0000
32	145·1	383·7		49·5		−·0008	·0000	+ 7·8	+ 0·7	·0000
38	141·9	377·0		50·3		−·0013	+·0001	+ 5·4	+ 1·2	·0000
44	142·2	381·5		50·3		−·0010	+·0001	+ 5·6	+ 0·9	·0000
50	138·0	382·2		51·1		−·0010	+·0002	+ 2·6	+ 1·0	+·0001
56	135·7	387·0		51·2		−·0006	+·0002	+ 0·7	+ 0·7	+·0002
14 02	131·0	385·5	72·0	51·2	71·9	−·0007	+·0002	− 2·8	+ 0·8	+·0001
08	131·1	382·2		51·9		−·0010	+·0003	− 2·6	+ 1·1	+·0002
14	134·6	383·6		50·9		−·0009	+·0002	0·0	+ 0·9	+·0001
20	136·7	384·5		52·6		−·0008	+·0004	+ 1·5	+ 1·0	+·0003
26	139·4	383·7		52·0		−·0009	+·0003	+ 3·6	+ 1·0	+·0002
32	147·7	385·7		50·1		−·0008	+·0001	+ 9·7	+ 0·8	·0000
38	148·1	388·1		49·3		−·0006	·0000	+10·0	+ 0·5	·0000
44	144·8	393·5		49·3		−·0002	+·0001	+ 7·7	+ 0·2	+·0001
50	142·8	388·1		49·5		−·0006	+·0001	+ 6·4	+ 0·6	+·0001
56	141·7	388·2		50·1		−·0006	+·0001	+ 5·6	+ 0·6	+·0001
15 02	139·0	388·7	71·8	49·8	71·8	−·0006	+·0001	+ 3·7	+ 0·6	+·0001
08	137·4	390·3		50·2		−·0005	+·0002	+ 2·7	+ 0·6	+·0002
14	136·4	388·7		49·9		−·0006	+·0001	+ 1·9	+ 0·6	+·0001
20	134·0	395·4		49·1		−·0001	+·0001	+ 0·3	+ 0·2	+·0001
26	133·6	394·3		49·3		−·0002	+·0001	0·0	+ 0·2	+·0001
32	134·0	392·6		48·5		−·0003	·0000	+ 0·4	+ 0·2	·0000
38	134·4	393·4		51·2		−·0002	+·0003	+ 0·6	+ 0·3	+·0003
44	131·3	396·3		50·7		·0000	+·0002	− 1·5	+ 0·2	+·0002
50	131·7	401·6		49·5		+·0004	+·0001	− 1·2	− 0·2	+·0001
56	131·3	405·4		46·3		+·0007	−·0002	− 1·4	− 0·8	−·0001
16 02	127·9	405·9	71·6	46·3	71·7	+·0006	−·0002	− 3·9	− 0·7	−·0002
17 02	131·0	397·3	71·2	42·9	71·5	+·0001	−·0005	− 1·9	− 0·5	−·0005

CAPE OF GOOD HOPE, 1842. SEPTEMBER 1—2.

MEAN MONTHLY READINGS OF THE MAGNETOMETERS.

Mean Göttingen Time.	Declination.	H. F. at 59°·7.	V. F. at 59°·1.	Mean Göttingen Time.	Declination.	H. F. at 59°·7.	V. F. at 59°·1.
Hours.	Sc. Div.	Sc. Div.	Sc. Div.	Hours.	Sc. Div.	Sc. Div.	Sc. Div.
00	43·5	94·6	66·0	12	46·1	93·5	67·4
01	45·4	93·7	64·4	13	46·6	93·4	67·1
02	46·8	93·0	65·4	14	46·7	94·5	67·5
03	47·3	92·6	66·3	15	46·8	94·1	66·3
04	46·7	92·4	68·3	16	46·9	94·2	66·6
05	46·1	92·7	69·5	17	47·1	94·1	66·0
06	46·0	92·2	68·6	18	48·7	94·2	64·4
07	46·2	91·8	68·9	19	48·3	95·6	64·9
08	46·1	92·0	68·0	20	45·9	96·9	68·8
09	46·2	92·1	67·7	21	43·2	97·6	69·5
10	46·1	92·1	68·1	22	41·4	96·9	69·7
11	46·0	93·1	68·1	23	41·8	95·6	68·1

Coefficients (A), Approximate Absolute Values (B).

(A)
- Declin. $a = 0'·751$
- H. F. $k = ·00018$, $q = ·00028$
- V. F. $k = ·00011$, $q = ·00005$

(B) Approx.
- $\psi = 29° 05'$
- $X = 4·46$
- $Y = 6·00$
- $\theta = -53° 12'$
- $\phi = 7·50$

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 2m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
1 23 02	41·0	—	—	—	—	—	—	− 0·6	—	—
2 00 02	43·0	—	—	—	—	—	—	− 0·4	—	—
01 02	45·2	—	58·0	—	58·1	—	—	− 0·2	—	—
50	—	93·5		72·6		−·0004	+·0009	—	+ 2·1	+·0004
56	45·7	93·0		72·8		−·0005	+·0008	− 0·8	+ 2·1	+·0003
02 02	45·9	92·3	58·2	73·4	58·3	−·0005	+·0008	− 0·7	+ 2·1	+·0003
08	46·0	92·1		72·9		−·0006	+·0008	− 0·7	+ 2·3	+·0003
14	47·0	92·1		72·2		−·0005	+·0007	+ 0·1	+ 2·0	+·0003
20	48·1	92·0		71·7		−·0006	+·0006	+ 0·8	+ 2·0	+·0002
26	48·5	91·9		71·7		−·0006	+·0006	+ 1·1	+ 2·0	+·0002
32	48·8	91·2		72·3		−·0007	+·0007	+ 1·3	+ 2·3	+·0002
38	48·8	90·2		73·1		−·0009	+·0008	+ 1·3	+ 2·8	+·0002
44	48·9	89·2		73·9		−·0010	+·0008	+ 1·3	+ 3·0	+·0002
50	49·0	87·9		75·1		−·0012	+·0010	+ 1·4	+ 3·6	+·0002
56	48·8	85·9		75·8		−·0016	+·0010	+ 1·1	+ 4·3	+·0001
03 02	47·6	83·7	58·4	80·3	58·5	−·0020	+·0015	+ 0·2	+ 5·8	+·0002
08	47·5	82·6		81·3		−·0022	+·0016	+ 0·2	+ 6·3	+·0002
14	47·1	82·7		82·1		−·0021	+·0016	− 0·1	+ 6·1	+·0003
20	46·8	82·6		82·1		−·0021	+·0016	+ 0·2	+ 6·1	+·0003
26	47·1	83·0		81·6		−·0021	+·0016	0·0	+ 6·1	+·0003
32	47·1	83·3		81·5		−·0020	+·0015	+ 0·1	+ 5·8	+·0002
38	46·4	83·8		81·6		−·0019	+·0015	− 0·4	+ 5·6	+·0003
44	46·8	84·2		81·6		−·0018	+·0015	− 0·1	+ 5·4	+·0003
50	46·7	85·0		80·8		−·0017	+·0014	− 0·1	+ 5·1	+·0003
56	46·6	86·0		79·7		−·0015	+·0012	− 0·2	+ 4·4	+·0002
04 02	46·9	86·3	58·6	79·9	58·6	−·0014	+·0011	+ 0·2	+ 4·1	+·0002
08	47·0	86·9		78·4		−·0013	+·0011	+ 0·3	+ 4·0	+·0002
14	47·1	86·9		77·9		−·0013	+·0011	+ 0·4	+ 4·0	+·0002
20	47·3	—	—	—	—	—	—	+ 0·6	—	—
05 02	45·7	—	—	—	—	—	—	− 0·3	—	—
06 02	46·9	—	—	—	—	—	—	+ 0·7	—	—
07 02	46·1	—	—	—	—	—	—	− 0·1	—	—
08 02	42·0	—	58·2	—	58·3	—	—	− 3·1	—	—
08	46·0	84·0		88·9		−·0018	+·0023	− 0·1	+ 6·8	+·0008
14	39·4	84·9		90·0		−·0017	+·0024	− 5·0	+ 6·8	+·0009
20	38·2	86·4		88·7		−·0014	+·0023	− 5·9	+ 6·1	+·0010
26	38·3	88·7		85·5		−·0010	+·0019	− 5·9	+ 4·8	+·0009

NOTE.—The Mean Monthly Readings of the Vertical Force Magnetometer are those for the month of August, the others are for September.

1842.
Cape of Good Hope.

September 2.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 2m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
						$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta \psi$	$\Delta \theta$	$\frac{\Delta \phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
2 08 32	39·8	90·0		81·7		−·0007	+·0013	− 4·8	+ 3·3	+·0006
38	41·5	90·4		78·9		−·0007	+·0012	− 3·5	+ 3·1	+·0005
44	43·3	90·0		77·1		−·0007	+·0010	− 2·2	+ 2·8	+·0004
50	44·6	89·2		77·1		−·0009	+·0010	− 1·2	+ 3·1	+·0003
56	44·8	88·9		76·5		−·0009	+·0010	− 1·1	+ 3·1	+·0003
09 02	45·0	87·8	58·5	76·7	58·6	−·0011	+·0010	− 0·9	+ 3·5	+·0003
08	45·2	87·2		77·2		−·0012	+·0010	− 0·8	+ 3·6	+·0002
14	45·0	87·7		77·2		−·0011	+·0010	− 0·9	+ 3·5	+·0003
20	45·1	88·5		76·5		−·0010	+·0009	− 0·8	+ 3·1	+·0002
26	45·1	89·0		75·8		−·0009	+·0008	− 0·8	+ 2·8	+·0002
32	45·2	89·5		75·5		−·0008	+·0008	− 0·7	+ 2·6	+·0002
38	45·1	89·4		75·5		−·0008	+·0008	− 0·8	+ 2·6	+·0002
44	45·3	89·3		74·9		−·0009	+·0007	− 0·6	+ 2·6	+·0001
50	45·7	89·2		75·4		−·0009	+·0008	− 0·3	+ 2·8	+·0002
56	45·7	89·8		75·4		−·0008	+·0008	− 0·3	+ 2·6	+·0002
10 02	45·0	—		—		—	—	− 0·8	—	—

1842.
Toronto.

September 21.

For Mean Monthly Readings, *see* page 117.

TORONTO, 1842. SEPTEMBER 21—22.

21 10 02	126·6	447·9	56·7	69·5	57·2	−·0007	+·0002	− 2·2	+ 0·8	+·0001
08	125·5	447·8		69·5		−·0006	+·0002	− 3·1	+ 0·7	+·0002
14	124·7	448·4		69·5		−·0005	+·0002	− 3·8	+ 0·6	+·0002
20	124·2	439·3		67·8		−·0012	+·0001	− 4·3	+ 1·1	·0000
26	125·2	433·6		68·1		−·0015	+·0001	− 3·7	+ 1·4	·0000
32	125·5	433·1		68·5		−·0015	+·0002	− 3·7	+ 1·4	+·0001
38	125·2	432·4		68·3		−·0015	+·0001	− 4·0	+ 1·4	·0000
44	125·0	431·6		68·4		−·0015	+·0002	− 3·6	+ 1·4	+·0001
50	125·1	430·5		68·4		−·0016	+·0002	− 3·7	+ 1·5	+·0001
56	124·6	426·0		68·4		−·0019	+·0002	− 4·2	+ 1·8	+·0001
11 02	126·0	428·6	57·2	69·0	57·9	−·0016	+·0003	− 4·0	+ 1·6	+·0002
08	127·0	433·3		69·1		−·0012	+·0003	− 3·3	+ 1·3	+·0002
14	126·6	435·2		69·3		−·0011	+·0003	− 3·7	+ 1·2	+·0002
20	126·9	437·2		70·1		−·0010	+·0004	− 3·5	+ 1·2	+·0003
26	127·9	437·0		70·3		−·0010	+·0004	− 2·8	+ 1·2	+·0003
32	128·5	435·1		70·3		−·0011	+·0004	− 2·4	+ 1·3	+·0003
38	128·7	433·8		70·3		−·0012	+·0004	− 2·3	+ 1·4	+·0003
44	127·9	437·8		71·4		−·0009	+·0005	− 2·8	+ 1·2	+·0004
50	126·1	439·1		71·3		−·0008	+·0005	− 4·1	+ 1·1	+·0004
56	127·6	434·5		71·2		−·0011	+·0004	− 3·1	+ 1·3	+·0003
12 02	130·8	434·7	57·1	70·8	57·9	−·0011	+·0004	− 0·8	+ 1·3	+·0003
08	131·3	441·5		69·2		−·0006	+·0003	− 0·4	+ 0·8	+·0002
14	129·8	443·0		68·6		−·0004	+·0002	− 1·4	+ 0·5	+·0002
20	129·9	444·4		68·6		−·0003	+·0002	− 1·3	+ 0·4	+·0002
26	130·2	445·5		68·5		−·0002	+·0002	− 1·1	+ 0·3	+·0002
32	129·0	444·7		68·5		−·0003	+·0003	− 1·9	+ 0·5	+·0003
38	129·5	444·7		68·5		−·0003	+·0003	− 1·5	+ 0·5	+·0003
44	129·2	443·4		68·5		−·0003	+·0003	− 1·7	+ 0·5	+·0003
50	130·4	440·7		68·5		−·0005	+·0003	− 0·8	+ 0·7	+·0003
56	129·1	439·2		69·1		−·0006	+·0003	− 1·7	+ 0·8	+·0002
13 02	128·4	432·4	57·4	69·1	58·0	−·0011	+·0003	− 3·7	+ 1·2	+·0002
08	132·3	417·2		68·4		−·0022	+·0003	− 0·9	+ 2·1	+·0001
14	140·5	413·7		68·9		−·0025	+ 0003	+ 4·8	+ 2·4	+·0001
20	150·1	408·2		68·4		−·0029	+·0003	+ 4·4	+ 2·7	+·0001
26	166·5	411·5		68·0		−·0026	+·0003	+23·4	+ 2·4	+·0001
32	172·1	427·7		67·9		−·0015	+·0003	+27·2	+ 1·5	+·0002
38	171·2	442·1		68·7		−·0004	+·0004	+26·5	+ 0·7	+·0004
44	167·7	—		—		—	—	+24·0	—	—
50	165·7	445·2		68·4		−·0002	+·0004	+22·4	+ 0·5	+·0004
56	158·9	446·0		68·3		−·0001	+·0004	+17·4	+ 0·4	+·0004

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September 21.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 2m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
21 14 02	149·5	—	57·4	—	58·8	—	—	+10·6	—	—
08	138·0	—		—		—	—	+ 2·4	—	—
14	134·7	—		—		—	—	+ 0·1	—	—
20	136·2	—		—		—	—	+ 1·2	—	—
26	136·0	—		—		—	—	+ 1·1	—	—
32	133·0	438·6		67·5		−·0007	+·0003	− 0·9	+ 0·9	+·0002
38	130·5	436·4		67·7		−·0009	+·0003	− 2·7	+ 1·0	+·0002
44	131·0	435·9		67·6		−·0010	+·0003	− 2·3	+ 1·1	+·0002
50	130·2	436·6		67·6		−·0009	+·0003	− 2·8	+ 1·0	+·0002
56	129·0	435·6		67·6		−·0010	+·0003	− 3·5	+ 1·1	+·0002
15 02	128·9	435·5	57·2	67·6	58·6	−·0010	+·0003	− 3·5	+ 1·1	+·0002
08	130·0	438·7		67·6		−·0008	+·0003	− 2·7	+ 0·9	+·0002
14	130·3	439·6		67·3		−·0007	+·0003	− 2·5	+ 0·9	+·0002
20	130·6	441·0		67·3		−·0006	+·0003	− 2·2	+ 0·8	+·0002
26	129·8	440·9		66·9		−·0006	+·0003	− 2·8	+ 0·8	+·0002
32	129·7	441·8		66·9		−·0005	+·0003	− 2·8	+ 0·7	+·0003
38	130·5	442·7		66·9		−·0004	+·0003	− 2·2	+ 0·6	+·0003
44	131·0	443·9		66·5		−·0003	+·0002	− 1·7	+ 0·4	+·0002
50	130·6	445·6		66·5		−·0002	+·0002	− 2·0	+ 0·3	+·0004
56	130·1	444·9		66·5		−·0002	+·0002	− 2·3	+ 0·3	+·0002
16 02	130·4	443·6	57·0	66·3	58·2	−·0003	+·0002	− 2·0	+ 0·4	+·0002
08	130·9	442·8		66·3		−·0004	+·0002	− 1·7	+ 0·5	+·0002
14	131·5	442·5		66·3		−·0004	+·0002	− 1·3	+ 0·5	+·0002
20	131·2	440·4		66·0		−·0005	+·0002	− 1·5	+ 0·6	+·0002
26	131·0	441·4		66·3		−·0004	+·0002	− 1·8	+ 0·5	+·0002
32	131·6	442·7		66·3		−·0004	+·0002	− 1·3	+ 0·5	+·0002
38	131·2	441·6		66·3		−·0004	+·0002	− 1·6	+ 0·5	+·0002
44	131·1	441·5		66·3		−·0004	+·0003	− 1·8	+ 0·6	+·0003
50	131·5	443·3		66·2		−·0003	+·0002	− 1·5	+ 0·4	+·0002
56	131·5	443·2		66·2		−·0003	+·0003	− 1·5	+ 0·5	+·0003
17 02	132·1	446·1	56·8	66·2	58·0	−·0001	+·0003	− 1·1	+ 0·3	+·0003
08	132·5	445·1		65·6		−·0002	+·0002	− 0·8	+ 0·3	+·0002
14	132·6	440·4		65·6		−·0005	+·0002	− 0·8	+ 0·6	+·0002
20	133·8	439·1		65·1		−·0006	+·0002	0·0	+ 0·7	+·0002
26	136·4	444·6		65·1		−·0002	+·0002	+ 1·8	+ 0·3	+·0002
32	133·8	443·5		64·8		−·0003	+·0002	− 0·1	+ 0·4	+·0002
38	134·9	445·6		64·8		−·0002	+·0002	+ 0·7	+ 0·3	+·0002
44	136·1	446·8		63·8		−·0001	+·0001	+ 2·3	+ 0·2	+·0001
50	137·4	453·5		63·2		−·0004	+·0001	+ 2·5	− 0·2	+·0001
56	139·0	452·5		62·7		−·0003	·0000	+ 3·5	− 0·2	·0000
18 02	137·2	451·2	56·7	62·6	57·8	+·0002	+·0001	+ 2·3	− 0·1	+·0001
08	136·0	449·3		62·7		·0000	+·0001	+ 1·3	+ 0·1	+·0001
14	134·5	447·3		62·7		−·0001	+·0001	+ 0·3	+ 0·2	+·0001
20	135·0	445·6		62·7		−·0002	+·0001	+ 0·6	+ 0·2	+·0001
26	132·9	442·5		62·8		−·0005	+·0001	− 0·9	+ 0·5	+·0001
32	127·4	437·8		63·6		−·0008	+·0001	− 4·9	+ 0·8	·0000
38	126·0	438·5		64·0		−·0007	+·0002	− 5·9	+ 0·8	+·0001
44	126·5	442·5		63·8		−·0004	+·0002	− 5·5	+ 0·5	+·0002
50	126·5	447·5		63·6		·0000	+·0001	− 5·6	+ 0·1	+·0001
56	126·5	449·2		63·2		+·0001	+·0001	− 5·6	0·0	+·0001
19 02	128·0	448·3	56·5	63·1	57·6	·0000	+·0001	− 4·5	+ 0·1	+·0001
08	129·8	450·0		63·1		+·0002	+·0001	− 3·2	− 0·1	+·0001
14	131·0	451·1		63·1		+·0003	+·0001	− 2·3	− 0·2	+·0001
20	128·2	444·2		63·1		−·0002	+·0001	− 4·2	+ 0·2	+·0001
26	126·0	440·6		63·4		−·0005	+·0001	− 5·6	+ 0·5	+·0001
32	127·4	440·3		63·4		−·0005	+·0001	− 4·5	+ 0·5	+·0001
38	130·1	444·6		63·8		−·0002	+·0001	− 2·6	+ 0·2	+·0001
44	131·1	446·5		63·9		·0000	+·0001	− 1·7	+ 0·1	+·0001
50	130·9	447·1		63·9		+·0001	+·0001	− 1·8	0·0	+·0001
56	130·3	446·9		64·1		+·0001	+·0002	− 2·2	+ 0·1	+·0002
20 02	131·0	446·3	56·3	64·2	57·5	·0000	+·0002	− 1·5	+ 0·2	+·0002
08	131·5	446·2		63·8		·0000	+·0001	− 1·4	+ 0·1	+·0001

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September 21—22.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 2m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
						$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta \psi$	$\Delta \theta$	$\frac{\Delta \phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
21 20 14	132·2	443·1		63·1		−·0002	+·0001	− 1·1	+ 0·2	+·0001
20	134·1	441·7		62·9		−·0003	·0000	+ 0·1	+ 0·2	·0000
26	136·7	445·0		62·8		−·0001	·0000	+ 1·7	+ 0·1	·0000
32	137·0	440·5		62·7		−·0004	·0000	+ 1·7	+ 0·3	·0000
38	137·0	437·0		62·5		−·0007	·0000	+ 1·5	+ 0·6	·0000
44	136·1	436·1		62·3		−·0008	·0000	+ 0·6	+ 0·7	·0000
50	136·3	437·9		61·8		−·0007	−·0001	+ 0·6	+ 0·5	−·0001
56	137·0	437·0		61·6		−·0007	−·0001	+ 0·9	+ 0·5	−·0001
21 02	137·3	436·2	56·1	60·8	57·3	−·0008	−·0002	+ 0·9	+ 0·5	−·0002
08	138·9	441·4		60·8		−·0004	−·0002	+ 2·0	+ 0·2	−·0002
14	138·7	434·2		62·0		−·0010	−·0001	+ 2·0	+ 0·8	−·0002
20	137·6	439·1		62·4		−·0006	·0000	+ 1·2	+ 0·5	·0000
26	136·7	443·0		62·4		−·0003	·0000	+ 0·6	+ 0·2	·0000
32	136·8	442·2		65·4		−·0004	+·0003	+ 0·7	+ 0·6	+·0003
38	138·0	439·7		65·0		−·0006	+·0002	+ 1·5	+ 0·7	+·0002
44	138·9	433·9		64·4		−·0011	+·0001	+ 2·3	+ 1·0	·0000
50	139·3	430·5		64·4		−·0013	+·0001	+ 2·6	+ 1·2	·0000
56	139·8	429·2		63·4		−·0014	·0000	+ 3·0	+ 1·2	−·0001
22 02	140·6	430·5	55·5	65·4	57·0	−·0013	+·0002	+ 3·6	+ 1·3	+·0001
08	139·0	435·7		66·9		−·0010	+·0004	+ 2·6	+ 1·2	+·0003
14	136·5	436·1		67·4		−·0010	+·0004	+ 0·7	+ 1·2	+·0003
20	132·1	435·0		67·4		−·0011	+·0004	− 2·4	+ 1·3	+·0003
26	130·5	439·6		67·4		−·0008	+·0004	− 3·5	+ 1·0	+·0003
32	138·7	436·0		67·4		−·0010	+·0004	+ 2·5	+ 1·2	+·0003
38	138·9	439·1		67·6		−·0008	+·0005	+ 2·7	+ 1·1	+·0004
44	138·1	443·6		67·6		−·0005	+·0005	+ 2·0	+ 0·9	+·0004
50	138·3	442·2		66·3		−·0007	+·0004	+ 2·3	+ 0·9	+·0003
56	138·7	442·5		66·3		−·0007	+·0004	+ 2·6	+ 0·9	+·0003
23 02	130·9	451·9	55·6	66·3	57·2	·0000	+·0004	− 3·0	+ 0·3	+·0004
08	132·2	452·4		67·9		·0000	+·0005	− 2·3	+ 0·4	+·0005
14	133·3	453·1		67·0		+·0001	+·0004	− 1·6	+ 0·2	+·0004
20	130·9	449·6		67·9		−·0002	+·0004	− 3·6	+ 0·5	+·0004
26	133·6	448·5		67·9		−·0003	+·0004	− 1·8	+ 0·6	+·0004
32	134·1	451·5		68·2		−·0001	+·0004	− 1·8	+ 0·4	+·0004
38	135·1	450·6		68·2		−·0002	+·0004	− 1·3	+ 0·5	+·0004
44	136·9	451·7		67·5		−·0001	+·0003	− 0·2	+ 0·3	+·0003
50	138·0	453·7		63·2		·0000	−·0001	+ 0·4	− 0·1	−·0001
56	139·0	454·7		63·2		+·0001	−·0001	+ 0·8	− 0·2	−·0001
22 00 02	139·4	453·6	55·6	64·1	57·0	·0000	−·0001	+ 0·9	− 0·1	−·0001
08	138·9	451·0		64·1		−·0002	−·0001	+ 0·4	+ 0·1	−·0001
14	139·5	463·1		64·6		+·0008	·0000	+ 0·7	− 0·7	·0000
20	141·0	450·9		64·6		−·0001	·0000	+ 1·6	+ 0·1	·0000
26	138·8	445·5		65·3		−·0005	·0000	− 0·1	+ 0·4	·0000
32	140·6	448·8		65·9		−·0002	+·0001	+ 1·1	+ 0·2	+·0001
38	141·5	450·3		66·6		·0000	+·0002	+ 1·6	+ 0·2	+·0002
44	141·5	449·5		67·0		·0000	+·0002	+ 1·5	+ 0·2	+·0002
50	140·7	448·7		67·4		−·0001	+·0002	+ 0·8	+ 0·2	+·0002
56	139·8	446·8		67·4		−·0002	+·0002	0·0	+ 0·3	+·0002
01 02	139·0	445·6	56·0	67·6	57·0	−·0002	+·0002	− 0·7	+ 0·3	+·0002
08	138·3	446·2		67·5		−·0001	+·0002	− 1·1	+ 0·2	+·0002
14	138·3	445·7		67·2		−·0001	+·0002	− 1·0	+ 0·2	+·0002
20	138·8	442·6		67·2		−·0003	+·0002	− 0·5	+ 0·4	+·0002
26	139·2	443·4		67·2		−·0001	+·0002	− 0·1	+ 0·2	+·0002
32	138·1	439·7		67·5		−·0003	+·0003	− 0·8	+ 0·5	+·0003
38	137·7	438·4		67·1		−·0004	+·0002	− 0·9	+ 0·5	+·0002
44	138·3	438·0		66·8		−·0004	+·0002	− 0·4	+ 0·5	+·0002
50	138·9	434·8		67·0		−·0005	+·0002	+ 0·1	+ 0·6	+·0002
56	138·3	432·1		66·5		−·0007	+·0002	− 0·2	+ 0·8	+·0001
02 02	140·2	432·9	56·5	66·5	57·2	−·0005	+·0002	+ 1·3	+ 0·6	+·0002
08	140·2	428·4		66·7		−·0008	+·0002	+ 1·5	+ 0·9	+·0001
14	139·2	428·2		66·7		−·0008	+·0002	+ 0·9	+ 0·9	+·0001
20	138·4	427·1		66·7		−·0008	+·0002	+ 0·6	+ 0·9	+·0001

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September 22.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 2m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
						$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta \psi$	$\Delta \theta$	$\frac{\Delta \phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm.	Sc. Div.	Therm.	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total orce.
22 02 26	139·8	430·5		66·6		−·0005	+·0002	+ 1·7	+ 0·6	+·0002
32	138·8	427·8		67·2		−·0007	+·0003	+ 1·2	+ 0·9	+·0002
38	137·3	434·6		67·2		−·0001	+·0003	+ 0·3	+ 0·3	+·0003
44	137·6	430·8		67·4		−·0003	+·0003	+ 0·7	+ 0·5	+·0003
50	138·1	431·9		67·5		−·0002	+·0003	+ 1·2	+ 0·4	+·0003
56	137·2	428·9		67·5		−·0004	+·0003	+ 0·8	+ 0·6	+·0003
03 02	140·0	429·8	56·2	67·5	57·0	−·0003	+·0003	+ 3·0	+ 0·5	+·0003
08	139·1	430·8		67·5		−·0002	+·0003	+ 2·6	+ 0·4	+·0003
14	138·2	427·3		67·5		−·0004	+·0003	+ 2·3	+ 0·6	+·0003
20	137·3	426·0		67·5		−·0005	+·0003	+ 1·8	+ 0·7	+·0003
26	134·8	428·7		67·0		−·0003	+·0002	+ 0·4	+ 0·4	+·0002
32	135·2	429·8		67·7		−·0002	+·0003	+ 0·9	+ 0·4	+·0003
38	135·5	430·0		67·8		−·0001	+·0003	+ 1·3	+ 0·3	+·0003
44	137·0	428·0		67·6		−·0003	+·0002	+ 2·8	+ 0·4	+·0002
50	135·4	426·3		67·6		−·0004	+·0002	+ 1·8	+ 0·5	+·0002
56	134·9	425·6		67·6		−·0004	+·0002	+ 1·8	+ 0·5	+·0002
04 02	136·2	428·1	56·0	67·6	56·7	−·0002	+·0002	+ 3·0	+ 0·3	+·0002
08	134·1	423·4		67·7		−·0006	+·0002	+ 1·8	+ 0·7	+·0002
14	133·0	424·0		67·7		−·0006	+·0002	+ 1·3	+ 0·7	+·0002
20	134·3	425·9		68·2		−·0004	+·0003	+ 2·7	+ 0·6	+·0003
26	132·9	423·5		68·2		−·0006	+·0003	+ 1·8	+ 0·8	+·0002
32	132·6	423·8		68·2		−·0006	+·0002	+ 2·2	+ 0·7	+·0002
38	132·3	422·6		68·2		−·0007	+·0002	+ 2·3	+ 0·8	+·0001
44	132·2	420·0		68·2		−·0009	+·0002	+ 2·6	+ 0·9	+·0001
50	132·0	419·8		68·2		−·0010	+·0002	+ 2·8	+ 1·0	+·0001
56	130·7	420·6		68·2		−·0009	+·0002	+ 2·0	+ 0·9	+·0001
05 02	130·2	422·3	56·2	68·3	56·2	−·0008	+·0002	+ 2·0	+ 0·9	+·0001
08	129·9	422·7		68·3		−·0009	+·0002	+ 2·0	+ 0·9	+·0001
14	129·8	423·9		68·3		−·0008	+·0002	+ 2·2	+ 0·9	+·0001
20	129·4	424·3		68·3		−·0009	+·0002	+ 2·0	+ 0·9	+·0001
26	129·0	423·3		68·3		−·0010	+·0002	+ 1·8	+ 1·0	+·0001
32	128·2	422·5		68·0		−·0011	+·0002	+ 1·5	+ 1·1	+·0001
38	127·9	423·2		68·0		−·0011	+·0002	+ 1·4	+ 1·1	+·0001
44	127·8	422·1		68·0		−·0012	+·0002	+ 1·5	+ 1·2	+·0001
50	126·7	422·3		68·0		−·0013	+·0002	+ 0·8	+ 1·3	+·0001
56	126·3	425·4		68·0		−·0011	+·0002	+ 0·8	+ 1·1	+·0001
06 02	126·1	426·7	55·5	68·3	56·2	−·0011	+·0002	+ 0·8	+ 1·1	+·0001
08	125·2	428·8		68·9		−·0010	+·0003	+ 0·2	+ 1·1	+·0002
14	126·0	429·3		68·7		−·0010	+·0002	+ 0·8	+ 1·0	+·0001
20	125·0	424·1		68·5		−·0014	+·0002	+ 0·1	+ 1·4	+·0001
26	123·8	423·0		68·5		−·0016	+·0002	− 0·6	+ 1·5	+·0001
32	123·8	431·0		68·9		−·0011	+·0002	− 0·6	+ 1·1	+·0001
38	124·7	433·4		68·9		−·0009	+·0002	+ 0·1	+ 0·9	+·0001
44	124·4	428·9		68·7		−·0013	+·0002	− 0·1	+ 1·3	+·0001
50	124·4	431·9		69·0		−·0012	+·0002	0·0	+ 1·2	+·0001
56	124·3	429·7		69·6		−·0014	+·0003	− 0·1	+ 1·4	+·0002
07 02	122·7	424·9	55·1	69·2	55·9	−·0018	+·0002	− 1·1	+ 1·7	+·0001
08	120·7	424·0		69·9		−·0019	+·0003	− 2·7	+ 1·9	+·0002
14	121·7	426·5		70·4		−·0018	+·0003	− 2·0	+ 1·8	+·0002
20	120·3	430·0		70·8		−·0016	+·0003	− 3·0	+ 1·6	+·0002
26	120·4	429·7		70·9		−·0016	+·0003	− 3·0	+ 1·6	+·0002
32	120·7	431·5		71·4		−·0016	+·0003	− 2·9	+ 1·6	+·0002
38	119·1	423·6		71·0		−·0022	+·0003	− 4·1	+ 2·1	+·0001
44	119·5	422·3		72·5		−·0023	+·0004	− 3·9	+ 2·3	+·0002
50	118·8	428·9		72·4		−·0019	+·0004	− 4·4	+ 1·9	+·0002
56	119·9	428·9		72·4		−·0019	+·0004	− 3·7	+ 1·9	+·0002
08 02	119·2	426·3	54·9	71·6	55·7	−·0022	+·0003	− 4·2	+ 2·1	+·0001
08	120·3	427·9		72·0		−·0021	+·0003	− 3·7	+ 2·0	+·0001
14	121·7	431·6		72·0		−·0018	+·0003	− 2·9	+ 1·8	+·0002
20	121·5	433·9		71·5		−·0017	+·0003	− 3·3	+ 1·7	+·0002
26	120·6	435·1		71·1		−·0016	+·0002	− 4·1	+ 1·5	+·0001
32	120·2	439·1		71·1		−·0014	+·0002	− 4·6	+ 1·4	+·0001

1842. Toronto.

September 22.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 2m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours. $\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
22 08 38	120·4	440·0		71·0		−·0013	+·0002	− 4·6	+ 1·3	+·0001
44	120·4	438·1		70·9		−·0015	+·0002	− 4·8	+ 1·4	+·0001
50	120·8	439·4		70·9		−·0014	+·0002	− 4·7	+ 1·4	+·0001
56	121·7	439·2		70·9		−·0015	+·0002	− 4·3	+ 1·4	+·0001
09 02	122·8	442·5	55·0	71·3	55·7	−·0012	+·0002	− 3·7	+ 1·2	+·0001
08	123·7	445·4		71·5		−·0010	+·0002	− 3·3	+ 1·0	+·0001
14	124·3	450·6		71·5		−·0007	+·0002	− 2·9	+ 0·8	+·0001
20	124·0	451·2		71·5		−·0006	+·0002	− 3·3	+ 0·7	+·0002
26	123·8	451·0		71·5		−·0007	+·0003	− 3·5	+ 0·9	+·0002
32	123·8	448·6		71·0		−·0008	+·0002	− 3·6	+ 0·9	+·0001
38	124·2	448·4		71·0		−·0009	+·0002	− 3·5	+ 0·9	+·0001
44	124·2	451·2		71·4		−·0007	+·0002	− 3·5	+ 0·8	+·0001
50	124·6	452·9		71·5		−·0006	+·0003	− 3·4	+ 0·8	+·0003
56	125·3	456·4		71·9		−·0002	+·0003	− 3·0	+ 0·4	+·0003

1842. Van Diemen Island.

September 21.

VAN DIEMEN ISLAND, 1842. SEPTEMBER 21—22.

MEAN MONTHLY READINGS OF THE MAGNETOMETERS.

Mean Göttingen Time.	Declination.	H. F. at 55°·0.	V. F. at 54°·0.	Mean Göttingen Time.	Declination.	H. F. at 55°·0.	V. F. at 54°·0.
Hours.	Sc. Div.	Sc. Div.	Sc. Div.	Hours.	Sc. Div.	Sc. Div.	Sc. Div.
00	72·3	72·7	43·2	12	70·4	71·7	33·6
01	72·0	74·0	42·6	13	71·1	69·5	35·5
02	71·7	74·5	41·8	14	73·2	67·6	40·1
03	72·4	75·1	38·9	15	76·0	67.6	42·0
04	72·7	75·7	37·0	16	78·7	70·0	44·9
05	73·5	74·6	37·9	17	80·7	72·4	45·4
06	74·1	74·3	35·9	18	80·6	72·6	46·9
07	74·8	74·7	34·1	19	79·4	73·7	46·5
08	74·4	75·0	34·1	20	77·1	73·1	47·0
09	74·0	75·0	33·3	21	75·5	73·8	45·4
16	72·6	75·4	32·0	22	74·4	73·1	44·0
11	71·5	74·5	33·1	23	72·3	71·9	43·1

Coefficients (A), Approximate Absolute Values (B).

(A) Declin. a = 0′·71

H. F. k = ·000120, q = ·000234

V. F. k = ·000038, q = ·00021

(B) Approx. ψ = − 9° 55′, X = 4·51, Y = 12·86, θ = − 70° 37′, ϕ = 13·62

OBSERVATIONS OF THE MAGNETOMETERS.

The H. F. was observed 2m. 30s. after and the V. F. 7m. 30s. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours. $\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
21 10 00	77·3	76·2	56·0	31·1	54·8	+·0003	+·0001	+ 3·3	− 0·2	+·0001
05	76·9	—		—		—	—	+ 3·1	—	—
10	76·9	76.0		32·0		+·0003	+·0002	+ 3·2	− 0·1	+·0002
15	77·5	—		—		—	—	+ 3·7	—	—
20	77·7	74·7		32·4		+·0002	+·0002	+ 4·0	0·0	+·0002
25	77·0	—		—		—	—	+ 3·4	—	—
30	76·8	72·7		34·8		·0000	+·0003	+ 3·3	+ 0·3	+·0003
35	76·4	—		—		—	—	+ 3·1	—	—
40	76·5	70·2		36·9		−·0003	+·0004	+ 3·2	+ 0·8	+·0003
45	76·3	—		—		—	—	+ 3·2	—	—
50	76·0	70·2		38·6		−·0003	+·0004	+ 3·0	+ 0·8	+·0003
55	76·2	—		—		—	—	+ 3·2	—	—
11 00	76·3	69·8	56·0	37·9	55·0	−·0003	+·0004	+ 3·4	+ 0·8	+·0003
05	76·0	—		—		—	—	+ 3·2	—	—

1842.
Van Diemen Island.

September 21.

OBSERVATIONS OF THE MAGNETOMETERS.

The H. F. was observed 2m. 30s. after and the V. F. 7m. 30s. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta \psi$	$\Delta \theta$	$\frac{\Delta \phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
21 11 10	75·8	70·5		35·7		−·0002	+·0003	+ 3·2	+ 0·6	+·0002
15	75·4	—		—		—	—	+ 2·9	—	—
20	75·1	70·2		36·6		−·0001	+·0003	+ 2·8	+ 0·4	+·0003
25	75·2	—		—		—	—	+ 2·9	—	—
30	75·1	71·7		34·6		+·0001	+·0003	+ 2·9	+ 0·2	+·0003
35	75·5	—		—		—	—	+ 3·2	—	—
40	74·4	71·5		33·3		+·0002	+·0002	+ 2·5	0·0	+·0002
45	74·0	—		—		—	—	+ 2·3	—	—
50	74·0	72·4		34·5		+·0004	+·0003	+ 2·4	− 0·1	+·0003
55	74·6	—		—		—	—	+ 2·9	—	—
12 00	74·5	71·4	56·5	32·9	55·0	+·0003	+·0002	+ 2·9	− 0·1	+·0002
05	73·7	—		—		—	—	+ 2·2	—	—
10	73·5	69·9		33·6		+·0002	+·0002	+ 2·1	0·0	+·0002
15	72·8	—		—		—	—	+ 1·5	—	—
20	72·6	69·6		31·3		+·0002	+·0001	+ 1·4	− 0·1	+·0001
25	72·4	—		—		—	—	+ 1·2	—	—
30	72·2	68·5		32·2		+·0001	+·0002	+ 1·1	+ 0·1	+·0002
35	72·3	—		—		—	—	+ 1·1	—	—
40	72·4	68·3		32·5		+·0002	+·0002	+ 1·1	0·0	+·0002
45	72·2	—		—		—	—	+ 0·9	—	—
50	72·6	65·4		35·0		−·0001	+·0003	+ 1·1	+ 0·4	+·0003
55	73·0	—		—		—	—	+ 1·4	—	—
13 00	73·9	61·9	56·7	39·5	55·5	−·0005	+·0005	+ 2·0	+ 1·1	+·0004
05	74·0	—		—		—	—	+ 1·9	—	—
10	74·9	56·3		46·2		−·0011	+·0007	+ 2·4	+ 1·9	+·0005
15	74·8	—		—		—	—	+ 2·2	—	—
20	75·5	51·4		49·8		−·0017	+·0008	+ 2·6	+ 2·7	+·0005
25	75·3	—		—		—	—	+ 2·3	—	—
30	75·9	48·9		53·0		−·0019	+·0009	+ 2·6	+ 3·0	+·0006
35	75·8	—		—		—	—	+ 2·5	—	—
40	75·3	49·2		49·8		−·0018	+·0008	+ 2·0	+ 2·8	+·0005
45	74·7	—		—		—	—	+ 1·4	—	—
50	74·8	54·5		43·5		−·0011	+·0006	+ 1·3	+ 1·8	+·0004
55	75·2	—		—		—	—	+ 1·5	—	—
14 00	75·6	58·8	57·2	37·0	56·0	−·0005	+·0003	+ 1·7	+ 1·0	+·0003
05	75·1	—		—		—	—	+ 1·2	—	—
10	75·0	60·5		34·8		−·0003	+·0002	+ 0·9	+ 0·6	+·0001
15	75·1	—		—		—	—	+ 0·8	—	—
20	75·0	61·6		29·9		−·0002	+·0001	+ 0·6	+ 0·3	+·0001
25	75·6	—		—		—	—	+ 0·8	—	—
30	75·6	61·0		30·6		−·0002	+·0001	+ 0·7	+ 0·3	+·0001
35	75·6	—		—		—	—	+ 0·6	—	—
40	75·8	63·0		29·3		+·0001	·0000	+ 0·5	− 0·1	·0000
45	76·2	—		—		—	—	+ 0·6	—	—
50	75·8	62·9		29·4		+·0001	·0000	+ 0·2	− 0·1	·0000
55	76·3	—		—		—	—	+ 0·4	—	+
15 00	76·1	62·6	57·8	29·0	56·5	+·0001	·0000	+ 0·1	− 0·1	·0000
05	76·3	—		—		—	—	+ 0·1	—	—
10	76·3	63·7		29·3		+·0002	+·0001	− 0·1	− 0·1	+·0001
15	76·6	—		—		—	—	− 0·1	—	—
20	77·2	64·2		27·6		+·0002	·0000	+ 0·2	− 0·2	·0000
25	77·3	—		—		—	—	+ 0·1	—	—
30	77·6	63·7		27·1		+·0002	·0000	+ 0·1	− 0·2	·0000
35	77·6	—		—		—	—	0·0	—	—
40	78·0	64·1		27·5		+·0002	+·0001	+ 0·1	− 0·1	+·0001
45	78·1	—		—		—	—	+ 0·1	—	—
50	78·3	—		—		—	—	0·0	—	—
55	78·5	—		—		—	—	0·0	—	—
16 00	79·0	64·1	58·8	27·3	57·5	+·0002	+·0001	+ 0·2	− 0·1	+·0001
05	79·0	—		—		—	—	+ 0·1	—	—
10	79·3	64·7		26·2		+·0003	+·0001	+ 0·2	− 0·2	+·0001
15	79·9	—		—		—	—	+ 0·5	—	—

1842.
Van Diemen Island.

September 21.

OBSERVATIONS OF THE MAGNETOMETERS. The H. F. was observed 2m. 30s. after and the V. F. 7m. 30s. after the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta \psi$	$\Delta \theta$	$\frac{\Delta \phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	″	Parts of Total Force.
21 16 20	79·6	63·7		25·6		+·0002	+·0001	+ 0·1	− 0·1	+·0001
25	80·3	—		—		—	—	+ 0·6	—	—
30	80·2	63·7		24·6		+·0002	+·0001	+ 0·4	− 0·1	+·0001
35	80·5	—		—		—	—	+ 0·4	—	—
40	80·4	64·0		23·6		+·0002	+·0001	+ 0·3	− 0·1	+·0001
45	80·7	—		—		—	—	+ 0·4	—	—
50	80·6	63·6		23·4		+·0002	+·0001	+ 0·1	− 0·1	+·0001
55	81·1	—		—		—	—	+ 0·4	—	—
17 00	82·0	66·3	60·4	23·3	58·8	+·0005	+·0002	+ 0·9	− 0·3	+·0002
05	82·7	—		—		—	—	+ 1·4	—	—
10	82·6	66·0		23·0		+·0006	+·0002	+ 1·3	− 0·4	+·0002
15	81·6	—		—		—	—	+ 0·6	—	—
20	81·0	64·4		27·0		+·0004	+·0004	+ 0·2	0·0	+·0004
25	81·7	—		—		—	—	+ 0·7	—	—
30	81·8	62·9		25·5		+·0003	+·0003	+ 0·8	0·0	+·0003
35	82·4	—		—		—	—	+ 1·3	—	—
40	82·6	61·2		25·4		+·0001	+·0004	+ 1·4	+ 0·3	+·0004
45	82·4	—		—		—	—	+ 1·3	—	—
50	81·9	60·6		27·4		+·0001	+·0005	+ 0·9	+ 0·4	+·0005
55	82·6	—		—		—	—	+ 1·4	—	—
18 00	82·5	61·4	61·8	25·7	59·8	+·0003	+·0004	+ 1·3	+ 0·1	+·0004
05	82·6	—		—		—	—	+ 1·5	—	—
10	82·7	63·6		22·3		+·0005	+·0003	+ 1·6	− 0·2	+·0003
15	82·4	—		—		—	—	+ 1·5	—	—
20	81·8	63·3		21·1		+·0005	+·0003	+ 1·1	− 0·2	+·0003
25	81·3	—		—		—	—	+ 0·8	—	—
30	81·3	64·7		20·1		+·0007	+·0002	+ 0·9	− 0·6	+·0003
35	81·3	—		—		—	—	+ 1·0	—	—
40	80·7	65·1		18·6		+·0007	+·0002	+ 0·6	− 0·6	+·0003
45	80·8	—		—		—	—	+ 0·8	—	—
50	80·5	65·0		19·6		+·0007	+·0002	+ 0·6	− 0·6	+·0003
55	80·6	—		—		—	—	+ 0·8	—	—
19 00	80·7	65·1	62·4	17·9	59·8	+·0007	+·0001	+ 0·9	− 0·7	+·0002
05	80·5	—		—		—	—	+ 0·9	—	—
10	80·0	62·5		17·7		+·0003	+·0002	+ 0·7	− 0·1	+·0002
15	79·1	—		—		—	—	+ 0·2	—	—
20	78·4	62·2		17·8		+·0002	+·0003	− 0·1	+ 0·1	+·0003
25	78·2	—		—		—	—	− 0·1	—	—
30	78·1	64·8		16·6		+·0005	+·0004	− 0·1	− 0·1	+·0004
35	78·2	—		—		—	—	+ 0·1	—	—
40	78·4	65·0		17·2		+·0004	+·0005	+ 0·4	+ 0·1	+·0005
45	78·0	—		—		—	—	+ 0·2	—	—
50	78·0	63·9		16·7		+·0002	+·0006	+ 0·4	+ 0·4	+·0006
55	78·0	—		—		—	—	+ 0·5	—	—
20 00	78·2	63·6	60·2	16·7	63·0	+·0001	+·0007	+ 0·8	+ 0·7	+·0006
05	77·5	—		—		—	—	+ 0·4	—	—
10	77·4	63·0		17·5		+·0001	+·0007	+ 0·4	+ 0·7	+·0006
15	77·2	—		—		—	—	+ 0·4	—	—
20	77·1	61·0		19·3		·0000	+·0007	+ 0·4	+ 0·8	+·0006
25	76·4	—		—		—	—	0·0	—	—
30	76·2	59·2		20·3		−·0002	+·0006	− 0·1	+ 0·9	+·0005
35	76·0	—		—		—	—	− 0·1	—	—
40	75·7	58·4		21·5		−·0002	+·0005	− 0·2	+ 0·8	+·0004
45	75·9	—		—		—	—	0·0	—	—
50	76·1	57·5		22·2		−·0002	+·0005	+ 0·2	+ 0·8	+·0004
55	76·0	—		—		—	—	+ 0·3	—	—
21 00	75·8	56·5	63·0	23·2	60·0	−·0002	+·0004	+ 0·2	+ 0·7	+·0003
05	76·3	—		—		—	—	+ 0·6	—	—
10	75·9	56·5		23·6		−·0002	+·0005	+ 0·4	+ 0·8	+·0004
15	77·2	—		—		—	—	+ 1·4	—	—
20	76·2	56·7		21·2		−·0001	+·0004	+ 0·8	+ 0·6	+·0003
25	75·7	—		—		—	—	+ 0·5	—	—

1842.
Van Diemen Island.

September 21—22.

OBSERVATIONS OF THE MAGNETOMETERS.

The H. F. was observed 2m. 30s. after and the V. F. 7m. 30s. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
						$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
21 21 30	75·4	59·2		18·2		+·0002	+·0003	+ 0·3	+ 0·1	+·0003
35	75·2	—		—		—	—	+ 0·2	—	—
40	74·7	56·7		19·8		·0000	+·0004	− 0·1	+ 0·4	+·0004
45	75·2	—		—		—	—	+ 0·4	—	—
50	74·9	56·5		21·6		·0000	+·0005	+ 0·2	+ 0·6	+·0004
55	74·4	—		—		—	—	− 0·1	—	—
22 00	72·1	62·5	63·5	14·3	60·8	+·0007	+·0003	− 1·6	− 0·4	+·0003
05	73·7	—		—		—	—	− 0·4	—	—
10	71·9	—		—		—	—	− 1·5	—	—
15	69·6	—		—		—	—	− 3·0	—	—
20	67·6	71·4		2·8		+·0018	·0000	− 4·4	− 1·9	+·0002
25	68·4	—		—		—	—	− 3·7	—	—
30	70·6	69·0		1·3		+·0015	+·0001	− 1·9	+ 1·7	+·0001
35	70·3	—		—		—	—	− 2·0	—	—
40	69·1	66·5		3·7		+·0012	+·0001	− 2·7	− 1·2	+·0002
45	70·0	—		—		—	—	− 2·0	—	—
50	71·1	61·7		10·9		+·0007	+·0004	− 1·1	− 0·3	+·0004
55	70·7	—		—		—	—	− 1·3	—	—
23 00	70·3	60·9	63·0	16·2	62·0	+·0006	+·0007	− 1·4	+ 0·1	+·0007
05	71·4	—		—		—	—	− 0·6	—	—
10	73·0	61·5		17·9		+·0006	+·0007	+ 0·5	+ 0·1	+·0007
15	73·7	—		—		—	—	+ 1·0	—	—
20	73·5	61·5		19·5		+·0006	+·0007	+ 0·8	+ 0·1	+·0007
25	74·2	—		—		—	—	+ 1·3	—	—
30	73·6	60·6		18·2		+·0004	+·0007	+ 0·9	+ 0·3	+·0007
35	72·7	—		—		—	—	+ 0·3	—	—
40	72·0	58·8		19·7		+·0002	+·0008	− 0·2	+ 0·7	+·0007
45	71·1	—		—		—	—	− 0·8	—	—
50	71·0	59·3		20·6		+·0002	+·0008	− 0·9	+ 0·7	+·0007
55	71·6	—		—		—	—	− 0·5	—	—
22 00 00	72·0	59·6	62·8	20·0	62·0	+·0003	+·0008	− 0·2	+ 0·6	+·0007
05	71·9	—		—		—	—	− 0·3	—	—
10	71·6	59·6		18·8		+·0003	+·0008	− 0·4	+ 0·6	+·0007
15	71·0	—		—		—	—	− 0·8	—	—
20	—	60·7		18·2		+·0004	+·0008	—	+ 0·4	+·0008
25	71·0	—		—		—	—	− 0·8	—	—
30	71·2	61·9		19·1		+·0005	+·0008	− 0·6	+ 0·3	+·0008
35	72·0	—		—		—	—	− 0·1	—	—
40	72·5	62·3		17·7		+·0005	+·0008	+ 0·3	+ 0·3	+·0008
45	73·0	—		—		—	—	+ 0·6	—	—
50	72·1	61·9		16·9		+·0004	+·0008	+ 0·1	+ 0·4	+·0008
55	71·2	—		—		—	—	− 0·6	—	—
01 00	71·5	61·6	63·0	17·4	62·5	+·0004	+·0008	− 0·4	+ 0·4	+·0008
05	72·2	—		—		—	—	+ 0·1	—	—
10	72·2	62·4		16·9		+·0005	+·0009	+ 0·2	+ 0·4	+·0009
15	72·0	—		—		—	—	− 0·1	—	—
20	71·5	62·0		17·0		+·0004	+·0009	− 0·3	+ 0·6	+·0008
25	71·4	—		—		—	—	− 0·4	—	—
30	71·6	64·7		16·1		+·0007	+·0009	− 0·1	+ 0·2	+·0009
35	72·2	—		—		—	—	+ 0·3	—	—
40	73·2	69·0		12·2		+·0012	+·0008	+ 1·0	− 0·4	+·0008
45	74·9	—		—		—	—	+ 2·2	—	—
50	74·9	70·5		13·1		+·0014	+·0009	+ 2·2	− 0·6	+·0010
55	75·2	—		—		—	—	+ 2·5	—	—
02 00	74·7	68·7	63·0	6·0	63·5	+·0012	+·0006	+ 2·1	− 0·7	+·0007
05	74·6	—		—		—	—	+ 2·0	—	—
10	74·1	67·5		7·3		+·0010	+·0007	+ 1·6	− 0·3	+·0007
15	73·8	—		—		—	—	+ 1·3	—	—
20	73·6	65·7		5·6		+·0008	+·0007	+ 1·2	− 0·1	+·0007
25	73·6	—		—		—	—	+ 1·1	—	—
30	74·1	66·4		5·3		+·0009	+·0007	+ 1·5	− 0·2	+·0007
35	74·2	—		—		—	—	+ 1·5	—	—

1842.
Van Diemen Island.

September 22.

OBSERVATIONS OF THE MAGNETOMETERS. The H. F. was observed 2m. 30s. after and the V. F. 7m. 30s. after the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
22 02 40	73·2	65·8		6·8		+·0008	+·0008	+ 0·7	0·0	+·0008
45	74·0	—		—		—	—	+ 1·3	—	—
50	74·7	66·2		6·5		+·0008	+·0008	+ 1·7	0·0	+·0008
55	74·5	—		—		—	—	+ 1·5	—	—
03 00	74·5	65·2	63·0	4·2	64·0	+·0007	+·0008	+ 1·5	+ 0·1	+·0008
05	74·1	—		—		—	—	+ 1·2	—	—
10	74·1	65·0		13·2		+·0007	+·0012	+ 1·1	+ 0·6	+·0011
15	73·6	—		—		—	—	+ 0·8	—	—
20	73·3	63·5		9·1		+·0005	+·0010	+ 0·6	+ 0·6	+·0009
25	73·4	—		—		—	—	+ 0·6	—	—
30	74·0	62·6		15·5		+·0003	+·0013	+ 1·0	+ 1·1	+·0012
35	74·0	—		—		—	—	+ 1·0	—	—
40	75·3	64·2		17·9		+·0005	+·0014	+ 1·9	+ 1·0	+·0013
45	75·3	—		—		—	—	+ 1·9	—	—
50	76·0	64·7		12·7		+·0006	+·0013	+ 2·3	+ 0·8	+·0012
55	75·6	—		—		—	—	+ 2·0	—	—
04 00	74·6	64·7	63·0	14·7	64·5	+·0006	+·0014	+ 1·3	+ 0·9	+·0013
05	74·5	—		—		—	—	+ 1·2	—	—
10	74·0	65·8		13·3		+·0007	+·0013	+ 0·8	+ 0·7	+·0012
15	74·1	—		—		—	—	+ 0·8	—	—
20	74·0	64·8		15·3		+·0006	+·0013	+ 0·7	+ 0·8	+·0012
25	73·5	—		—		—	—	+ 0·4	—	—
30	74·0	63·6		17·2		+·0004	+·0013	+ 0·6	+ 1·0	+·0012
35	74·0	—		—		—	—	+ 0·6	—	—
40	74·3	63·2		18·0		+·0004	+·0013	+ 0·8	+ 1·0	+·0012
45	74·2	—		—		—	—	+ 0·6	—	—
50	74·4	62·9		20·1		+·0004	+·0013	+ 0·7	+ 1·0	+·0012
55	75·0	—		—		—	—	+ 1·1	—	—
05 00	75·8	62·9	62·6	20·6	63·2	+·0004	+·0013	+ 1·6	+ 1·0	+·0012
05	76·1	—		—		—	—	+ 1·8	—	—
10	76·2	63·2		19·5		+·0004	+·0013	+ 1·8	+ 1·0	+·0012
15	76·3	—		—		—	—	+ 1·8	—	—
20	76·5	63·7		20·6		+·0005	+·0013	+ 2·0	+ 0·9	+·0012
25	77·1	—		—		—	—	+ 2·3	—	—
30	77·4	63·9		20·5		+·0005	+·0014	+ 2·5	+ 1·0	+·0013
35	77·8	—		—		—	—	+ 2·7	—	—
40	78·1	65·7		18·9		+·0007	+·0013	+ 2·9	+ 0·7	+·0012
45	78·2	—		—		—	—	+ 2·9	—	—
50	78·1	67·3		16·4		+·0009	+·0013	+ 2·9	+ 0·4	+·0013
55	77·4	—		—		—	—	+ 2·3	—	—
06 00	76·9	67·7	62·4	15·2	63·6	+·0010	+·0012	+ 2·0	+ 0·2	+·0012
05	77·2	—		—		—	—	+ 2·1	—	—
10	76·1	68·1		11·7		+·0010	+·0011	+ 1·3	+ 0·1	+·0011
15	75·0	—		—		—	—	+ 0·5	—	—
20	74·5	67·2		14·8		+·0009	+·0012	+ 0·1	+ 0·3	+·0012
25	75·6	—		—		—	—	+ 0·8	—	—
30	76·5	67·8		15·7		+·0009	+·0013	+ 1·5	+ 0·4	+·0013
35	76·8	—		—		—	—	+ 1·6	—	—
40	78·0	68·8		18·6		+·0010	+·0014	+ 2·4	+ 0·4	+·0014
45	79·4	—		—		—	—	+ 3·4	—	—
50	80·7	72·4		16·1		+·0014	+·0013	+ 4·3	− 0·1	+·0013
55	81·7	—		—		—	—	+ 5·0	—	—
07 00	82·6	77·0	62·2	11·9	63·5	+·0020	+·0012	+ 5·6	− 0·9	+·0013
05	82·9	—		—		—	—	+ 5·8	—	—
10	82·3	81·0		5·5		+·0024	+·0009	+ 5·4	− 1·6	+·0011
15	82·4	—		—		—	—	+ 5·5	—	—
20	81·6	81·4		1·6		+·0025	+·0007	+ 4·9	− 1·9	+·0009
25	81·2	—		—		—	—	+ 4·7	—	—
30	80·0	77·4		2·3		+·0020	+·0007	+ 3·9	− 1·4	+·0008
35	78·7	—		—		—	—	+ 2·9	—	—
40	77·6	75·4		3·8		+·0018	+·0008	+ 2·2	− 1·1	+·0009
45	77·3	—		—		—	—	+ 2·0	—	—
50	77·4	72·7		8·0		+·0014	+·0009	+ 2·0	− 0·6	+·0010
55	77·7	—		—		—	—	+ 2·3	—	—

1842. Van Diemen Island.

September 22.

OBSERVATIONS OF THE MAGNETOMETERS.

The H. F. was observed 2m. 30s. after and the V. F. 7m. 30s. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours. $\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
22 08 00	78·5	69·5	62·2	11·4	63·0	+·0010	+·0010	+ 2·9	0·0	+·0010
05	78·7	—		—		—	—	+ 3·0	—	—
10	79·7	69·7		15·3		+·0011	+·0012	+ 3·9	+ 0·1	+·0012
15	80·8	—		—		—	—	+ 4·7	—	—
20	80·6	67·5		14·8		+·0009	+·0012	+ 4·5	+ 0·3	+·0012
25	79·6	—		—		—	—	+ 3·9	—	—
30	79·5	67·6		14·4		+·0009	+·0012	+ 3·8	+ 0·3	+·0012
35	78·6	—		—		—	—	+ 3·1	—	—
40	77·8	67·7		13·5		+·0009	+·0011	+ 2·6	+ 0·2	+·0011
45	78·0	—		—		—	—	+ 2·7	—	—
50	77·6	67·0		13·1		+·0009	+·0011	+ 2·5	+ 0·2	+·0011
55	77·1	—		—		—	—	+ 2·2	—	—
09 00	77·0	67·2	63·0	13·5	63·0	+·0009	+·0011	+ 2·1	+ 0·2	+·0011
05	77·1	—		—		—	—	+ 2·2	—	—
10	77·0	67·1		13·0		+·0009	+·0011	+ 2·2	+ 0·2	+·0011
15	76·8	—		—		—	—	+ 2·2	—	—
20	76·9	68·0		12·0		+·0010	+·0011	+ 2·4	+ 0·1	+·0011
25	77·2	—		—		—	—	+ 2·7	—	—
30	77·3	68·2		11·4		+·0010	+·0011	+ 2·8	+ 0·1	+·0011
35	76·9	—		—		—	—	+ 2·6	—	—
40	76·5	67·5		11·0		+·0009	+·0011	+ 2·4	+ 0·2	+·0011
45	76·5	—		—		—	—	+ 2·5	—	—
50	76·3	67·4		12·1		+·0009	+·0011	+ 2·5	+ 0·2	+·0011
55	76·5	—		—		—	—	+ 2·7	—	—

ST. HELENA, 1842. SEPTEMBER 21—22.

1842. St. Helena.

September 21.

MEAN MONTHLY READINGS OF THE MAGNETOMETERS.

Mean Göttingen Time.	Declination.	H. F. at 61°·0.	V. F. at 60°·6.	Mean Göttingen Time.	Declination.	H. F. at 61°·0.	V. F. at 60°·6.
Hours.	Sc. Div.	Sc. Div.	Sc. Div.	Hours.	Sc. Div.	Sc. Div.	Sc. Div.
00	20·4	67·5	50·8	12	21·7	60·4	51·2
01	21·3	68·2	50·9	13	21·9	61·2	51·2
02	21·5	67·2	51·1	14	21·7	61·4	51·1
03	21·9	65·4	51·4	15	21·7	61·5	51·1
04	22·2	63·7	51·4	16	21·7	61·9	51·1
05	21·9	63·0	51·4	17	21·7	61·7	51·1
06	21·3	62·3	51·3	18	22·2	61·8	51·1
07	21·2	61·3	51·3	19	24·2	61·5	50·9
08	21·3	60·7	51·1	20	23·5	61·3	50·7
09	21·6	60·4	51·1	21	21·5	62·1	50·5
10	21·6	60·0	50·9	22	20·3	63·9	49·9
11	21·7	60·3	50·8	23	19·7	65·5	50·0

Coefficients (A), Approximate Absolute Values (B.)

(A)
- Declin. $a = 0'·711$
- H. F. $\begin{cases} k = ·00019 \\ q = ·00028 \end{cases}$
- V. F. $\begin{cases} k = ·0008 \\ q = ·00002 \end{cases}$

(B) Approx.
- $\psi = 23°\,07'$
- X = 5·57
- Y = 2·20
- $\theta = -21°\,34'$
- $\phi = 6·00$

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 2m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours. $\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force
21 10 02	21·0	58·2	61·9	54·8	61·4	−·0001	+·0031	− 0·4	+ 3·8	+·0003
08	21·0	57·8		55·8		−·0002	+·0039	− 0·4	+ 4·8	+·0004
14	20·8	57·1		55·8		−·0003	+·0039	− 0·6	+ 4·9	+·0003
20	20·6	57·1		55·5		−·0003	+·0037	− 0·7	+ 4·7	+·0002
26	20·8	57·6		56·1		−·0002	+·0042	− 0·6	+ 5·2	+·0004
32	20·9	57·9		56·1		−·0002	+·0042	− 0·6	+ 5·2	+·0004
38	20·9	58·2		56·1		−·0002	+·0042	− 0·6	+ 5·2	+·0004

1842.
St. Helena.

September 21.

OBSERVATIONS OF THE MAGNETOMETERS. The Declination was observed 2m. before, and the V. F. 2m. after the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta \psi$	$\Delta \theta$	$\frac{\Delta \phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
21 10 44	20·9	58·4		55·8		−·0001	+·0040	− 0·6	+ 4·8	+·0005
50	20·9	58·7		55·8		−·0001	+·0040	− 0·6	+ 4·8	+·0005
56	20·9	58·8		55·8		−·0001	+·0040	− 0·6	+ 4·8	+·0005
11 02	20·9	58·7	61·8	55·8	61·3	−·0001	+·0040	− 0·6	+ 4·8	+·0005
08	20·9	58·5		55·8		−·0001	+·0040	− 0·6	+ 4·8	+·0005
14	20·9	58·2		55·8		−·0002	+·0039	− 0·6	+ 4·8	+·0004
20	21·1	58·2		55·8		−·0002	+·0039	− 0·4	+ 4·8	+·0004
26	21·1	57·9		55·8		−·0003	+·0038	− 0·4	+ 4·8	+·0003
32	21·1	57·5		55·8		−·0002	+·0038	− 0·4	+ 4·7	+·0003
38	20·9	57·5		55·8		−·0002	+·0038	− 0·6	+ 4·7	+·0003
44	21·0	58·0		55·6		−·0003	+·0036	− 0·5	+ 4·6	+·0002
50	20·9	58·4		55·6		−·0002	+·0036	− 0·6	+ 4·5	+·0003
56	20·8	58·1		55·6		−·0003	+·0035	− 0·6	+ 4·5	+·0002
12 02	20·6	58·1	61·6	55·7	61·2	−·0003	+·0036	− 0·8	+ 4·6	+·0002
08	20·4	58·2		55·7		−·0003	+·0036	− 0·9	+ 4·6	+·0002
14	20·6	58·5		55·7		−·0002	+·0036	− 0·8	+ 4·5	+·0003
20	20·9	58·8		55·7		−·0002	+·0036	− 0·6	+ 4·5	+·0003
26	21·0	58·8		55·7		−·0002	+·0036	− 0·5	+ 4·5	+·0003
32	21·2	58·9		55·7		−·0002	+·0036	− 0·4	+ 4·5	+·0003
38	21·3	58·8		55·7		−·0003	+·0036	− 0·3	+ 4·6	+·0002
44	21·3	58·8		55·7		−·0003	+·0036	− 0·3	+ 4·6	+·0002
50	21·7	59·9		55·7		−·0001	+·0036	0·0	+ 4·5	+·0004
56	21·7	60·7		55·7		+·0001	+·0036	0·0	+ 4·1	+·0006
13 02	21·5	61·2	61·5	55·3	61·1	+·0001	+·0033	− 0·1	+ 3·8	+·0005
08	21·8	63·6		55·3		+·0006	+·0033	+ 0·1	+ 3·2	+·0010
14	22·2	66·0		55·3		+·0010	+·0033	+ 0·4	+ 2·7	+·0013
20	22·8	67·3		55·3		+·0013	+·0033	+ 0·8	+ 2·4	+·0016
26	23·0	68·0		55·3		+·0014	+·0034	+ 0·9	+ 2·4	+·0017
32	23·0	67·5		55·3		+·0013	+·0034	+ 0·9	+ 2·5	+·0016
38	22·9	67·0		55·3		+·0012	+·0034	+ 0·8	+ 2·6	+·0015
44	22·9	66·2		55·3		+·0010	+·0034	+ 0·8	+ 2·8	+·0013
50	22·6	65·0		55·4		+·0008	+·0034	+ 0·6	+ 3·1	+·0012
56	22·2	64·0		55·2		+·0006	+·0033	+ 0·4	+ 3·2	+·0010
14 02	22·0	63·1	61·3	55·3	61·1	+·0004	+·0034	+ 0·2	+ 3·5	+·0008
08	22·2	62·3		55·3		+·0002	+·0034	+ 0·4	+ 3·8	+·0006
14	22·3	61·7		55·3		+·0001	+·0034	+ 0·4	+ 3·9	+·0005
20	22·1	61·4		55·3		·0000	+·0034	+ 0·3	+ 4·0	+·0005
26	21·9	61·1		55·3		−·0001	+·0034	+ 0·1	+ 4·1	+·0004
32	21·9	60·9		55·3		−·0001	+·0034	+ 0·1	+ 4·1	+·0004
38	22·2	60·8		55·3		−·0001	+·0034	+ 0·4	+ 4·1	+·0004
44	22·1	60·7		55·3		−·0002	+·0034	+ 0·3	+ 4·2	+·0003
50	21·8	60·7		55·3		−·0002	+·0034	+ 0·1	+ 4·2	+·0003
56	21·6	60·5		55·3		−·0002	+·0034	− 0·1	+ 4·2	+·0003
15 02	21·5	60·7	61·3	55·3	61·1	−·0001	+·0034	− 0·1	+ 4·1	+·0004
08	21·6	60·5		55·3		−·0001	+·0039	− 0·1	+ 4·7	+·0004
14	21·7	60·6		56·0		−·0001	+·0042	0·0	+ 5·1	+·0005
20	21·5	60·4		56·4		−·0002	+·0042	− 0·1	+ 5·2	+·0004
26	21·4	60·4		56·4		−·0002	+·0042	− 0·2	+ 5·2	+·0004
32	21·4	60·4		56·4		−·0002	+·0042	− 0·2	+ 5·2	+·0004
38	21·4	60·7		56·4		−·0001	+·0042	− 0·2	+ 5·1	+·0005
44	21·4	60·8		56·4		−·0001	+·0042	− 0·2	+ 5·1	+·0005
50	21·4	60·8		56·4		−·0001	+·0042	− 0·2	+ 5·1	+·0005
56	21·5	60·8		56·4		−·0001	+·0042	− 0·1	+ 5·1	+·0005
16 02	21·7	61·0	61·3	56·4	61·0	−·0001	+·0042	0·0	+ 5·1	+·0005
08	22·5	61·1		56·4		−·0001	+·0042	+ 0·6	+ 5·1	+·0005
14	22·1	60·9		56·5		−·0001	+·0043	+ 0·3	+ 5·2	+·0005
20	21·9	61·0		56·5		−·0001	+·0043	+ 0·1	+ 5·2	+·0005
26	21·9	61·0		56·5		−·0001	+·0043	+ 0·1	+ 5·2	+·0005
32	21·6	60·9		56·5		−·0001	+·0043	− 0·1	+ 5·2	+·0005
38	21·9	60·9		56·5		−·0001	+·0043	+ 0·1	+ 5·2	+·0005
44	21·9	60·9		56·5		−·0002	+·0043	+ 0·1	+ 5·3	+·0004
50	22·1	60·9		56·5		−·0001	+·0043	+ 0·3	+ 5·2	+·0005
56	22·3	60·9		56·2		−·0002	+·0041	+ 0·4	+ 5·1	+·0004

1842.
St. Helena.

September 21.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 2m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
						$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
21 17 02	22·5	60·9	61·0	56·2	60·7	−·0002	+·0041	+ 0·6	+ 5·1	+·0004
08	22·4	60·9		56·2		−·0002	+·0041	+ 0·4	+ 5·1	+·0004
14	22·3	60·9		56·2		−·0002	+·0041	+ 0·4	+ 5·1	+·0004
20	22·3	60·9		52·7		−·0002	+·0013	+ 0·3	+ 1·8	·0000
26	22·2	60·5		52·7		−·0002	+·0013	+ 0·2	+ 1·8	·0000
32	22·4	60·4		52·6		−·0003	+·0012	+ 0·3	+ 1·8	−·0001
38	22·6	60·8		52·6		−·0002	+·0012	+ 0·4	+ 1·7	·0000
44	22·8	60·9		52·6		−·0002	+·0012	+ 0·5	+ 1·7	·0000
50	22·8	60·9		52·6		−·0002	+·0012	+ 0·5	+ 1·7	·0000
56	22·8	61·1		52·6		−·0001	+·0012	+ 0·4	+ 1·5	+·0001
18 02	22·9	61·0	61·0	52·6	60·7	−·0002	+·0012	+ 0·5	+ 1·7	·0000
08	22·9	61·0		52·8		−·0002	+·0014	+ 0·4	+ 1·9	·0000
14	22·9	61·0		52·8		−·0002	+·0014	+ 0·2	+ 1·9	·0000
20	22·9	61·0		52·8		−·0002	+·0014	+ 0·1	+ 1·9	·0000
26	23·0	61·0		52·8		−·0002	+·0014	0·0	+ 1·9	·0000
32	23·0	61·0		52·8		−·0002	+·0014	− 0·1	+ 1·9	·0000
38	23·1	61·1		52·8		−·0001	+·0014	− 0·2	+ 1·8	+·0001
44	23·5	61·1		52·8		−·0001	+·0015	− 0·1	+ 1·9	+·0001
50	23·9	61·1		52·9		−·0001	+·0016	+ 0·1	+ 2·0	+·0001
56	24·3	61·0		52·9		−·0002	+·0016	+ 0·2	+ 2·1	·0000
19 02	24·8	61·3	60·8	52·9	60·5	−·0001	+·0016	+ 0·4	+ 2·0	+·0001
08	24·9	61·5		53·1		−·0001	+·0018	+ 0·6	+ 2·2	+·0002
14	24·9	61·1		53·1		−·0001	+·0018	+ 0·6	+ 2·2	+·0002
20	24·9	61·1		53·1		−·0001	+·0018	+ 0·6	+ 2·2	+·0002
26	24·8	61·0		53·1		−·0001	+·0018	+ 0·6	+ 2·2	+·0002
32	24·5	61·0		53·1		−·0001	+·0018	+ 0·5	+ 2·2	+·0002
38	24·0	61·0		53·1		−·0001	+·0018	+ 0·1	+ 2·2	+·0002
44	23·9	61·0		53·1		−·0001	+·0018	− 0·1	+ 2·2	+·0002
50	23·2	61·0		53·1		−·0001	+·0019	− 0·3	+ 2·4	+·0002
56	23·1	61·0		53·1		−·0001	+·0019	− 0·4	+ 2·4	+·0002
20 02	23·0	61·1	60·9	53·1	60·5	−·0001	+·0019	− 0·4	+ 2·4	+·0002
08	22·9	61·1		53·1		−·0001	+·0019	− 0·3	+ 2·4	+·0002
14	22·4	61·4		53·1		·0000	+·0019	− 0·5	+ 2·2	+·0003
20	22·1	61·4		53·1		−·0001	+·0020	− 0·6	+ 2·5	+·0002
26	22·0	61·2		53·1		−·0001	+·0020	− 0·5	+ 2·5	+·0002
32	21·8	61 3		53·1		−·0001	+·0020	− 0·5	+ 2·5	+·0002
38	21·5	61·0		53·1		−·0002	+·0020	− 0·6	+ 2·6	+·0001
44	21·0	60·9		53·1		−·0002	+·0020	− 0·8	+ 2·6	+·0001
50	20·9	61·1		53·1		−·0002	+·0021	− 0·7	+ 2·7	+·0001
56	20·5	60·9		53·1		−·0003	+·0021	− 0·8	+ 2·8	·0000
21 02	20·2	60·9	60·8	53·1	60·4	−·0003	+·0021	− 0·9	+ 2·8	·0000
08	20·0	60·3		53·1		−·0004	+·0022	− 1·0	+ 3·1	·0000
14	19·9	60·2		53·1		−·0005	+·0022	− 1·0	+ 3·2	−·0001
20	19·3	60·5		53·1		−·0005	+·0022	− 1·3	+ 3·2	−·0001
26	19·0	61·0		53·1		−·0004	+·0022	− 1·4	+ 3·1	·0000
32	19·0	61·2		53·1		−·0004	+·0023	− 1·3	+ 3·2	·0000
38	18·5	61·1		53·1		−·0005	+·0024	− 1·6	+ 3·4	−·0001
44	18·4	61·1		53·1		−·0005	+·0024	− 1·6	+ 3·4	−·0001
50	18·0	61·0		53·1		−·0005	+·0025	− 1·8	+ 3·5	−·0001
56	17·9	61·0		53·1		−·0006	+·0024	− 1·8	+ 3·5	−·0002
22 02	17·5	60·2	60·8	53·2	60·5	−·0008	+·0026	− 2·0	+ 4·0	−·0003
08	17·2	60·1		53·2		−·0008	+·0026	− 2·1	+ 4·0	−·0003
14	17·1	60·1		53·3		−·0008	+·0027	− 2·2	+ 4·1	−·0003
20	16·9	59·9		53·3		−·0009	+·0027	− 2·2	+ 4·2	−·0004
26	16·7	59·8		53·3		−·0010	+·0027	− 2·4	+ 4·4	−·0005
32	16·5	59·0		53·3		−·0011	+·0026	− 2·5	+ 4·4	−·0006
38	16·3	60·4		53·3		−·0009	+·0026	− 2·5	+ 4·1	−·0004
44	16·2	60·7		53·3		−·0008	+·0026	− 2·6	+ 4·0	−·0003
50	16·3	60·9		53·3		−·0008	+·0026	− 2·5	+ 4·0	−·0003
56	16·1	61·2		53·4		−·0008	+·0027	− 2·6	+ 4·1	−·0003
23 02	15·9	61·8	61·0	53·4	60·9	−·0007	+·0027	− 2·7	+ 4·0	−·0002
08	16·0	62·1		53·4		−·0007	+·0026	− 2·7	+ 3·9	−·0003

1842.
St. Helena.

September 21—22.

OBSERVATIONS OF THE MAGNETOMETERS. The Declination was observed 2m. before, and the V. F. 2m. after the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
21 23 14	16·1	62·3		53·4		−·0007	+·0026	− 2·6	+ 3·9	−·0003
20	16·0	62·9		53·4		−·0006	+·0026	− 2·7	+ 3·8	−·0002
26	16·0	63·2		53·5		−·0006	+·0026	− 2·8	+ 3·8	−·0002
32	16·1	63·5		53·5		−·0006	+·0025	− 2·8	+ 3·6	−·0002
38	16·1	63·5		53·5		−·0006	+·0024	− 2·8	+ 3·5	−·0002
44	16·2	63·9		53·5		−·0006	+·0023	− 2·8	+ 3·4	−·0002
50	16·1	63·8		53·5		−·0006	+·0023	− 2·9	+ 3·4	−·0002
56	16·1	63·3		53·5		−·0007	+·0022	− 2·9	+ 3·4	−·0003
22 00 02	16·2	63·3	61·1	53·5	61·0	−·0008	+·0022	− 2·9	+ 3·5	−·0004
08	16·5	63·9		53·5		−·0007	+·0022	− 2·8	+ 3·4	−·0003
14	16·5	63·9		53·5		−·0007	+·0022	− 2·9	+ 3·4	−·0003
20	17·0	64·0		53·5		−·0006	+·0022	− 2·6	+ 3·3	−·0002
26	16·9	63·9		53·5		−·0007	+·0022	− 2·7	+ 3·4	−·0003
32	17·0	63·9		53·5		−·0007	+·0021	− 2·7	+ 3·3	−·0003
38	17·1	63·9		53·5		−·0007	+·0021	− 2·7	+ 3·3	−·0003
44	17·1	64·0		53·3		−·0006	+·0019	− 2·7	+ 2·9	−·0003
50	17·9	63·9		53·3		−·0007	+·0019	− 2·2	+ 3·1	−·0003
56	17·9	63·9		53·3		−·0006	+·0019	− 2·3	+ 2·9	−·0003
01 02	17·8	63·7	61·7	53·3	61·4	−·0007	+·0019	− 2·5	+ 3·1	−·0003
08	17·9	63·1		53·3		−·0007	+·0019	− 2·4	+ 3·1	−·0003
14	18·0	63·1		53·3		−·0007	+·0019	− 2·3	+ 3·1	−·0003
20	18·1	63·1		53·0		−·0007	+·0016	− 2·3	+ 2·7	−·0004
26	18·5	63·0		53·0		−·0007	+·0016	− 2·0	+ 2·7	−·0004
32	18·9	63·0		53·0		−·0007	+·0016	− 1·8	+ 2·7	−·0004
38	19·0	63·0		53·0		−·0006	+·0016	− 1·7	+ 2·6	−·0003
44	19·2	63·0		53·0		−·0006	+·0016	− 1·5	+ 2·6	−·0003
50	19·2	62·9		53·0		−·0006	+·0015	− 1·6	+ 2·5	−·0003
56	19·9	62·9		53·0		−·0006	+·0015	− 1·1	+ 2·5	−·0003
02 02	19·9	63·1	62·0	53·0	61·8	−·0005	+·0015	− 1·1	+ 2·4	−·0002
08	19·9	63·1		53·0		−·0005	+·0015	− 1·1	+ 2·4	−·0002
14	20·0	63·1		53·0		−·0004	+·0014	− 1·1	+ 2·1	−·0002
20	20·0	63·0		53·0		−·0004	+·0014	− 1·1	+ 2·1	−·0002
26	20·4	62·1		52·9		−·0006	+·0014	− 0·9	+ 2·4	−·0003
32	20·5	62·8		53·0		−·0004	+·0014	− 0·8	+ 2·1	−·0002
38	20·6	62·9		53·0		−·0003	+·0014	− 0·8	+ 2·0	−·0001
44	20·7	63·0		53·0		−·0003	+·0014	− 0·8	+ 2·0	−·0001
50	20·7	63·1		53·0		−·0002	+·0014	− 0·8	+ 1·9	·0000
56	20·9	63·8		53·0		·0000	+·0013	− 0·7	+ 1·5	+·0002
03 02	20·9	62·9	62·1	53·0	62·1	·0000	+·0013	− 0·7	+ 1·5	+·0002
08	20·5	63·1		53·0		−·0001	+·0013	− 1·0	+ 1·7	+·0001
14	20·2	63·0		53·0		−·0001	+·0013	− 1·3	+ 1·7	+·0001
20	20·4	62·9		53·0		·0000	+·0013	− 1·1	+ 1·5	+·0002
26	20·9	62·9		53·0		·0000	+·0013	− 0·8	+ 1·5	+·0002
32	20·9	62·9		53·0		+·0001	+·0013	− 0·8	+ 1·4	+·0003
38	20·9	63·0		53·0		+·0001	+·0013	− 0·8	+ 1·4	+·0003
44	20·9	62·9		53·0		+·0001	+·0013	− 0·8	+ 1·4	+·0003
50	20·9	62·9		53·0		+·0002	+·0013	− 0·8	+ 1·3	+·0004
56	21·0	62·9		52·9		+·0002	+·0012	− 0·8	+ 1·2	+·0003
04 02	20·9	62·0	62·5	52·9	62·2	+·0001	+·0012	− 0·9	+ 1·3	+·0003
08	21·0	62·0		52·9		+·0001	+·0012	− 0·8	+ 1·3	+·0003
14	21·0	62·0		52·9		+·0001	+·0012	− 0·8	+ 1·3	+·0003
20	21·1	62·0		52·9		+·0001	+·0012	− 0·7	+ 1·3	+·0003
26	21·1	62·0		52·9		+·0002	+·0012	− 0·7	+ 1·2	+·0003
32	21·0	61·9		52·9		+·0001	+·0012	− 0·7	+ 1·3	+·0003
38	20·8	61·8		52·9		+·0001	+·0012	− 0·8	+ 1·3	+·0003
44	20·6	61·0		52·9		·0000	+·0012	− 1·0	+ 1·4	+·0002
50	20·6	61·1		52·9		·0000	+·0012	− 1·0	+ 1·4	+·0002
56	20·6	61·1		52·9		·0000	+·0012	− 0·9	+ 1·4	+·0002
05 02	20·2	61·1	62·4	52·9	62·2	·0000	+·0012	− 1·2	+ 1·4	+·0002
08	20·2	61·1		52·5		+·0001	+·0009	− 1·1	+ 0·9	+·0002
14	20·1	61·0		52·5		·0000	+·0009	− 1·2	+ 1·1	+·0001
20	20·1	61·1		52·5		+·0001	+·0009	− 1·1	+ 0·9	+·0002

1842.
St. Helena.
September 22.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 2m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
						$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta \psi$	$\Delta \theta$	$\frac{\Delta \phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
22 05 26	20·0	61·1		52·5		+·0001	+·0009	− 1·2	+ 0·9	+·0002
32	20·0	61·0		52·7		+·0001	+·0011	− 1·1	+ 1·2	+·0002
38	20·0	60·9		52·7		+·0001	+·0011	− 1·1	+ 1·2	+·0002
44	19·9	60·9		52·7		+·0001	+·0011	− 1·1	+ 1·2	+·0002
50	20·1	60·9		52·8		+·0001	+·0012	− 0·9	+ 1·3	+·0003
56	20·1	60·9		52·8		+·0001	+·0012	− 0·9	+ 1·3	+·0003
06 02	20·1	61·0	62·3	52·8	62·0	+·0001	+·0012	− 0·8	+ 1·3	+·0003
08	20·1	60·9		52·8		+·0001	+·0012	− 0·8	+ 1·3	+·0003
14	20·2	60·2		52·8		·0000	+·0012	− 0·8	+ 1·4	+·0002
20	20·2	60·5		52·8		+·0001	+·0012	− 0·8	+ 1·3	+·0003
26	20·4	60·0		52·8		·0000	+·0012	− 0·6	+ 1·4	+·0002
32	20·1	60·0		52·8		·0000	+·0012	− 0·8	+ 1·4	+·0002
38	20·0	59·8		52·8		·0000	+·0012	− 0·8	+ 1·4	+·0002
44	20·0	59·5		52·8		−·0001	+·0012	− 0·8	+ 1·5	+·0001
50	19·9	58·3		52·8		−·0003	+·0012	− 0·9	+ 1·8	−·0001
56	19·8	57·0		52·8		−·0006	+·0012	− 1·0	+ 2·1	−·0004
07 02	19·8	56·1	62·0	52·4	61·8	−·0007	+·0009	− 1·0	+ 1·9	−·0005
08	19·5	55·8		52·4		−·0007	+·0009	− 1·2	+ 1·9	−·0005
14	19·4	55·0		52·4		−·0009	+·0009	− 1·3	+ 2·1	−·0007
20	19·3	54·3		52·6		−·0010	+·0011	− 1·3	+ 2·5	−·0007
26	19·0	55·0		52·6		−·0009	+·0011	− 1·5	+ 2·4	−·0006
32	19·0	55·9		52·6		−·0007	+·0011	− 1·6	+ 2·1	−·0005
38	19·7	56·7		52·7		−·0005	+·0012	− 1·1	+ 2·0	−·0003
44	20·0	56·9		52·7		−·0005	+·0012	− 0·9	+ 2·0	−·0003
50	20·1	56·7		52·7		−·0005	+·0013	− 0·8	+ 2·1	−·0003
56	20·0	56·3		52·7		−·0006	+·0013	− 0·9	+ 2·2	−·0003
08 02	20·0	55·9	62·0	52·7	61·7	−·0006	+·0013	− 0·9	+ 2·2	−·0003
08	20·0	55·4		52·7		−·0007	+·0013	− 0·9	+ 2·4	−·0004
14	20·0	55·1		52·7		−·0008	+·0013	− 1·0	+ 2·5	−·0005
20	20·0	55·3		52·7		−·0007	+·0013	− 1·0	+ 2·4	−·0004
26	20·0	55·2		52·6		−·0008	+·0012	− 1·0	+ 2·4	−·0005
32	20·1	55·3		52·6		−·0007	+·0012	− 1·0	+ 2·2	−·0004
38	20·0	55·3		52·6		−·0007	+·0012	− 1·1	+ 2·2	−·0004
44	20·0	55·5		52·6		−·0007	+·0012	− 1·1	+ 2·2	−·0004
50	20·0	55·8		52·6		−·0007	+·0012	− 1·1	+ 2·2	−·0004
56	20·0	55·9		52·6		−·0006	+·0012	− 1·1	+ 2·1	−·0004
09 02	20·1	55·9	61·8	52·6	61·5	−·0006	+·0012	− 1·1	+ 2·1	−·0004
08	20·1	56·0		52·7		−·0006	+·0013	− 1·1	+ 2·2	−·0003
14	20·2	56·1		52·7		−·0006	+·0013	− 1·0	+ 2·2	−·0003
20	20·3	56·1		52·7		−·0006	+·0014	− 0·9	+ 2·4	−·0003
26	20·3	56·0		52·6		−·0006	+·0013	− 0·9	+ 2·2	−·0003
32	20·3	56·0		52·6		−·0006	+·0013	− 0·9	+ 2·2	−·0003
38	20·3	56·0		52·6		−·0006	+·0013	− 0·9	+ 2·2	−·0003
44	20·2	56·1		52·6		−·0006	+·0013	− 1·0	+ 2·2	−·0003
50	20·5	56·8		53·0		−·0004	+·0017	− 0·8	+ 2·5	−·0001
56	20·7	56·9		53·1		−·0004	+·0018	− 0·6	+ 2·6	−·0001

1842.
Cape of Good Hope.

September 21.

CAPE OF GOOD HOPE, 1842. SEPTEMBER 21—22.

MEAN MONTHLY READINGS OF THE MAGNETOMETERS.

Mean Göttingen Time.	Declination.	H. F. at 59°·7.	V. F. at 59°·9.	Mean Göttingen Time.	Declination.	H. F. at 59°·7.	V. F. at 59°·9.
Hours.	Sc. Div.	Sc. Div.	Sc. Div.	Hours.	Sc. Div.	Sc. Div.	Sc. Div.
00	43·5	94·6	30·4	12	46·1	93·5	33·3
01	45·4	93·7	29·1	13	46·6	94·4	33·0
02	46·8	93·0	30·1	14	46·7	94·5	32·6
03	47·3	92·6	32·1	15	46·8	94·1	32·8
04	46·7	92·4	34·4	16	46·9	94·2	32·5
05	46·1	92·7	35·1	17	47·1	94·1	32·1
06	46·0	92·2	34·8	18	48·7	94·2	30·7
07	46·2	91·8	34·6	19	48·3	95·6	32·2
08	46·1	92·0	34·1	20	45·9	96·9	35·3
09	46·2	92·1	34·0	21	43·2	97·6	36·8
10	46·1	92·1	34·0	22	41·4	96·9	35·9
11	46·0	93·1	33·3	23	41·8	95·6	32·8

Coefficients (A), Approximate Absolute Values (B.)

(A) Declin. $a = 0'\cdot751$

H. F. $k = \cdot00018$, $q = \cdot00028$

V. F. $k = \cdot00011$, $q = \cdot00005$

(B) Approx. $\psi = 29°\,05'$, $X = 4\cdot46$, $Y = 6\cdot00$, $\theta = -53°12'$, $\phi = 7\cdot50$

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 2m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm.	Sc. Div.	Therm.	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
21 10 02	44·8	94·1	58·8	35·7	58·7	+·0001	+·0001	− 1·0	0·0	+·0001
08	44·3	93·6		36·5		·0000	+·0002	− 1·4	+ 0·3	+·0001
14	44·1	93·0		37·2		−·0001	+·0003	− 1·5	+ 0·7	+·0002
20	43·8	93·3		37·0		−·0001	+·0003	− 1·7	+ 0·7	+·0002
26	44·1	93·9		36·4		+·0001	+·0002	− 1·5	+ 0·1	+·0002
32	44·2	94·3		36·2		+·0001	+·0002	− 1·4	+ 0·1	+·0002
38	44·3	94·9		35·7		+·0002	+·0002	− 1·3	0·0	+·0002
44	44·2	95·2		35·5		+·0003	+·0002	− 1·4	− 0·1	+·0002
50	44·3	95·4		35·3		+·0003	+·0002	− 1·3	− 0·1	+·0002
56	44·1	95·2		35·4		+·0003	+·0002	− 1·4	− 0·1	+·0002
11 02	44·1	95·0	59·3	35·5	59·0	+·0002	+·0002	− 1·4	0·0	+·0002
08	44·2	94·7		35·5		+·0002	+·0002	− 1·4	0·0	+·0002
14	44·4	94·2		35·4		+·0001	+·0002	− 1·2	+ 0·1	+·0002
20	44·9	94·2		35·3		+·0001	+·0002	− 0·8	+ 0·1	+·0002
26	44·9	93·7		35·7		·0000	+·0002	− 0·8	+ 0·3	+·0001
32	44·8	93·2		36·2		−·0001	+·0003	− 1·0	+ 0·7	+·0002
38	44·7	93·0		35·7		−·0001	+·0002	− 1·1	+ 0·5	+·0001
44	45·4	93·2		35·2		−·0001	+·0002	− 0·5	+ 0·5	+·0001
50	45·7	93·3		35·0		−·0001	+·0002	− 0·3	+ 0·5	+·0001
56	45·8	93·0		35·1		−·0001	+·0002	− 0·2	+ 0·5	+·0001
12 02	45·1	92·8	59·6	35·6	59·2	−·0002	+·0002	− 0·8	+ 0·7	+·0001
08	45·0	92·8		35·6		−·0002	+·0002	− 0·9	+ 0·7	+·0001
14	45·1	93·0		35·0		−·0002	+·0002	− 0·8	+ 0·7	+·0001
20	45·5	93·3		34·5		−·0001	+·0001	− 0·6	+ 0·3	·0000
26	45·8	93·3		34·0		−·0001	+·0001	− 0·4	+ 0·3	·0000
32	46·0	93·8		33·7		−·0001	·0000	− 0·3	+ 0·1	·0000
38	46·0	93·8		33·6		−·0001	·0000	− 0·3	+ 0·1	·0000
44	46·0	93·9		32·6		−·0001	·0000	− 0·4	+ 0·1	·0000
50	47·1	95·3		31·3		+·0002	−·0002	+ 0·5	− 0·7	−·0001
56	47·2	96·2		31·5		+·0003	−·0002	+ 0·5	− 0·8	·0000
13 02	46·8	97·4	59·7	30·8	59·5	+·0005	−·0003	+ 0·2	− 1·3	·0000
08	47·2	100·0		27·1		+·0010	−·0007	+ 0·5	− 2·8	−·0001
14	49·1	101·8		24·2		+·0013	−·0010	+ 1·9	− 3·8	−·0002
20	50·8	102·6		22·9		+·0015	−·0011	+ 3·2	− 4·3	−·0002
26	51·2	102·4		23·2		+·0015	−·0011	+ 3·5	− 4·3	−·0002
32	51·0	101·7		24·7		+·0013	−·0009	+ 3·2	− 3·6	−·0001
38	50·4	100·8		25·8		+·0012	−·0008	+ 2·8	− 3·3	−·0001
44	49·9	99·8		27·6		+·0010	−·0006	+ 2·4	− 2·6	·0000
50	49·0	98·7		29·1		+·0008	−·0004	+ 1·7	− 2·0	·0000
56	48·2	98·0		30·1		+·0007	−·0003	+ 1·1	− 1·7	+·0001

1842.
Cape of Good Hope.

September 21.

OBSERVATIONS OF THE MAGNETOMETERS. The Declination was observed 2m. before, and the V. F. 2m. after the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta \psi$	$\Delta \theta$	$\frac{\Delta \phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
21 14 02	48·0	97·0	59·8	30·7	59·6	+·0005	−·0002	+ 1·0	− 1·2	·0000
08	47·9	96·2		31·2		+·0003	−·0002	+ 0·9	− 0·8	·0000
14	47·8	95·9		32·4		+·0003	·0000	+ 0·8	− 0·5	+·0001
20	47·1	95·5		32·2		+·0002	−·0001	+ 0·3	− 0·5	·0000
26	47·0	95·2		32·7		+·0002	·0000	+ 0·2	− 0·3	+·0001
32	47·0	95·0		31·9		+·0002	−·0001	+ 0·2	− 0·5	·0000
38	47·2	95·0		31·9		+·0002	−·0001	+ 0·3	− 0·5	·0000
44	47·0	94·7		32·7		+·0001	·0000	+ 0·2	− 0·1	·0000
50	46·8	94·6		33·1		+·0001	·0000	0·0	− 0·1	·0000
56	46·6	94·3		33·4		+·0001	+·0001	− 0·2	0·0	+·0001
15 02	46·4	94·2	59·8	33·4	59·7	+·0001	−·0001	− 0·3	− 0·3	·0000
08	46·4	94·0		33·1		·0000	·0000	− 0·3	0·0	·0000
14	46·6	94·1		33·1		·0000	·0000	− 0·2	0·0	·0000
20	46·2	94·0		33·6		·0000	+·0001	− 0·5	+ 0·2	+·0001
26	46·0	93·9		33·6		·0000	+·0001	− 0·6	+ 0·2	+·0001
32	46·0	93·9		33·5		·0000	+·0001	− 0·7	+ 0·2	+·0001
38	46·0	94·0		33·0		·0000	·0000	− 0·7	0·0	·0000
44	46·0	94·0		33·2		·0000	+·0001	− 0·7	+ 0·2	+·0001
50	46·0	94·0		32·8		·0000	·0000	− 0·7	0·0	·0000
56	46·0	94·0		32·8		·0000	·0000	− 0·7	0·0	·0000
16 02	46·2	94·1	59·8	32·2	59·7	·0000	·0000	− 0·5	0·0	·0000
08	46·5	94·3		32·2		+·0001	·0000	− 0·3	− 0·2	·0000
14	46·2	94·1		32·5		·0000	·0000	− 0·5	0·0	·0000
20	46·0	94·0		32·5		·0000	·0000	− 0·8	0·0	·0000
26	46·1	94·1		32·5		·0000	·0000	− 0·7	0·0	·0000
32	46·1	93·9		32·5		·0000	·0000	− 0·7	0·0	·0000
38	46·1	93·7		32·6		·0000	·0000	− 0·7	0·0	·0000
44	46·2	93·7		32·4		·0000	·0000	− 0·6	0·0	·0000
50	46·3	93·8		32·1		·0000	·0000	− 0·6	0·0	·0000
56	46·7	93·6		32·0		·0000	·0000	− 0·3	0·0	·0000
17 02	47·0	93·6	59·9	32·0	59·8	·0000	·0000	− 0·1	0·0	·0000
08	47·0	93·6		32·1		·0000	·0000	− 0·2	0·0	·0000
14	47·0	93·7		32·2		·0000	·0000	− 0·3	0·0	·0000
20	47·2	93·5		31·1		·0000	−·0001	− 0·3	− 0·2	−·0001
26	47·0	93·2		31·4		−·0001	·0000	− 0·5	+ 0·2	·0000
32	47·0	93·0		31·4		−·0001	·0000	− 0·7	+ 0·2	·0000
38	47·8	93·0		31·3		−·0001	·0000	− 0·2	+ 0·2	·0000
44	48·2	93·0		30·7		−·0001	−·0001	0·0	0·0	−·0001
50	48·7	92·9		30·7		−·0001	·0000	+ 0·2	+ 0·2	·0000
56	48·3	92·9		31·2		−·0001	·0000	− 0·2	+ 0·2	·0000
18 02	48·2	92·9	60·1	31·5	59·7	−·0001	+·0001	− 0·4	+ 0·3	·0000
08	48·0	92·9		32·1		−·0001	+·0001	− 0·5	+ 0·3	·0000
14	47·5	93·3		32·6		−·0001	+·0002	− 0·8	+ 0·5	+·0001
20	47·3	93·5		32·6		−·0001	+·0001	− 1·0	+ 0·3	·0000
26	47·0	93·5		32·8		−·0001	+·0002	− 1·1	+ 0·5	+·0001
32	47·0	93·8		32·8		−·0001	+·0001	− 1·1	+ 0·3	·0000
38	46·8	94·0		32·8		−·0001	+·0001	− 1·3	+ 0·3	·0000
44	46·9	94·4		32·8		−·0001	+·0001	− 1·1	+ 0·3	·0000
50	47·0	94·6		33·0		·0000	+·0001	− 1·1	+ 0·2	+·0001
56	46·9	94·9		33·4		·0000	+·0003	− 1·1	+ 0·5	+·0002
19 02	46·4	95·2	60·0	34·0	59·8	·0000	+·0002	− 1·4	+ 0·3	+·0001
08	46·2	95·7		34·2		+·0001	+·0002	− 1·4	+ 0·2	+·0002
14	45·9	95·5		34·5		·0000	+·0002	− 1·4	+ 0·3	+·0001
20	45·9	95·8		35·2		·0000	+·0002	− 1·3	+ 0·3	+·0001
26	45·4	96·0		35·8		+·0001	+·0003	− 1·4	+ 0·3	+·0002
32	45·2	96·3		36·1		+·0001	+·0002	− 1·4	+ 0·2	+·0002
38	44·8	96·5		36·1		+·0001	+·0002	− 1·6	+ 0·2	+·0002
44	44·5	96·8		36·1		+·0001	+·0002	− 1·6	+ 0·2	+·0002
50	44·2	97·0		36·5		+·0001	+·0002	− 1·7	+ 0·2	+·0002
56	44·0	97·0		36·8		+·0001	+·0002	− 1·6	+ 0·2	+·0002
20 02	43·4	97·4	59·9	37·1	59·6	+·0001	+·0002	− 1·9	− 0·2	·0000
08	43·4	97·6		37·3		+·0002	+·0002	− 1·7	0·0	+·0002

1842.
Cape of Good Hope.

September 21—22.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 2m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta \psi$	$\Delta \theta$	$\frac{\Delta \phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
21 20 14	42·9	97·8		37·3		+·0002	+·0002	− 1·9	0·0	+·0002
20	42·7	97·8		37·0		+·0002	+·0001	− 1·8	− 0·2	+·0001
26	42·5	97·8		37·3		+·0002	+·0001	− 1·7	− 0·2	+·0001
32	42·2	97·8		37·4		+·0001	+·0001	− 1·7	0·0	+·0001
38	41·9	97·6		37·9		+·0001	+·0002	− 1·8	+ 0·2	+·0002
44	41·4	97·6		37·9		+·0001	+·0002	− 2·0	+ 0·2	+·0002
50	41·3	97·6		37·9		+·0001	+·0002	− 1·8	+ 0·2	+·0002
56	41·0	97·5		38·0		·0000	+·0001	− 1·9	+ 0·2	+·0001
21 02	40·8	97·0	59·8	38·0	59·8	−·0001	+·0001	− 1·8	+ 0·3	·0000
08	40·4	96·7		38·4		−·0001	+·0002	− 2·0	+ 0·5	+·0001
14	40·1	96·7		38·7		−·0001	+·0002	− 2·0	+ 0·5	+·0001
20	39·9	96·5		38·5		−·0001	+·0002	− 2·1	+ 0·5	+·0001
26	39·3	96·5		38·5		−·0001	+·0002	− 2·4	+ 0·5	+·0001
32	39·1	96·9		37·9		·0000	+·0002	− 2·4	+ 0·3	+·0001
38	38·9	96·3		37·6		−·0001	+·0002	− 2·4	+ 0·5	+·0001
44	38·8	96·0		37·7		−·0001	+·0002	− 2·3	+ 0·5	+·0001
50	38·8	95·6		37·9		−·0002	+·0002	− 2·3	+ 0·7	+·0001
56	38·4	95·2		38·0		−·0002	+·0002	− 2·4	+ 0·7	+·0001
22 02	38·2	94·9	60·1	38·0	60·2	−·0003	+.0002	− 2·4	+ 0·8	·0000
08	38·3	94·0		38·2		−·0004	+·0003	− 2·3	+ 1·2	+·0001
14	38·3	93·9		37·5		−·0004	+·0003	− 2·4	+ 1·2	+·0001
20	38·1	93·1		38·2		−·0005	+·0004	− 2·6	+ 1·5	+·0001
26	38·0	93·0		38·2		−·0005	+·0004	− 2·7	+ 1·5	+·0001
32	38·1	93·1		37·3		−·0004	+·0004	− 2·6	+ 1·3	+·0001
38	38·3	92·9		36·8		−·0004	+·0003	− 2·5	+ 1·2	+·0001
44	38·9	93·2		35·7		−·0003	+·0002	− 2·1	+ 0·8	·0000
50	39·8	93·0		35·2		−·0003	+·0002	− 1·4	+ 0·8	·0000
56	38·9	93·1		34·6		−·0003	+·0002	− 2·2	+ 0·8	·0000
23 02	40·0	93·0	60·4	34·1	60·5	−·0003	+·0002	− 1·4	+ 0·8	·0000
08	40·3	93·0		33·2		−·0003	+·0001	− 1·3	+ 0·7	·0000
14	40·9	93·3		35·0		−·0002	+·0003	− 0·9	+ 0·8	+·0001
20	41·1	93·5		31·5		−·0001	·0000	− 0·9	+ 0·2	·0000
26	41·4	93·3		31·0		−·0001	−·0001	− 0·8	0·0	−·0001
32	41·9	93·1		30·4		−·0001	−·0001	− 0·6	0·0	−·0001
38	42·1	93·1		30·1		−·0001	−·0001	− 0·5	0·0	−·0001
44	42·4	93·1		29·8		−·0001	−·0001	− 0·5	0·0	−·0001
50	42·6	92·6		29·9		−·0001	−·0001	− 0·5	0·0	−·0001
56	42·7	92·0		29·9		−·0002	·0000	− 0·5	+ 0·3	−·0001
22 00 02	43·0	92·0	60·7	29·3	60·7	−·0002	−·0001	− 0·4	+ 0·2	−·0001
08	43·2	92·0		29·2		−·0002	−·0001	− 0·4	+ 0·2	−·0001
14	43·5	91·8		29·2		−·0002	−·0001	− 0·3	+ 0·2	−·0001
20	44·1	92·0		27·8		−·0002	−·0002	0·0	0·0	−·0002
26	44·0	91·6		28·0		−·0003	−·0002	− 0·2	+ 0·2	−·0002
32	44·6	91·7		27·2		−·0003	−·0002	+ 0·1	+ 0·2	−·0002
38	44·9	91·5		26·9		−·0003	−·0002	+ 0·2	+ 0·2	−·0002
44	44·9	91·6		26·8		−·0003	−·0002	+ 0·1	+ 0·2	−·0002
50	45·1	91·7		26·7		−·0003	−·0002	+ 0·1	+ 0·2	−·0002
56	45·2	91·1		26·5		−·0004	−·0002	·0·0	+ 0·3	−·0003
01 02	45·2	90·8	61·0	26·7	61·0	−·0002	−·0002	− 0·2	0·0	−·0002
08	45·2	90·8		27·0		−·0001	−·0001	− 0·3	0·0	−·0001
14	45·8	90·8		27·2		−·0001	−·0001	+ 0·1	0·0	−·0001
20	45·9	90·7		27·2		−·0001	−·0002	+ 0·1	− 0·2	−·0002
26	46·1	90·6		27·5		−·0001	−·0001	+ 0·1	0·0	−·0001
32	46·2	90·5		27·6		−·0001	−·0001	+ 0·1	0·0	−·0001
38	46·3	90·3		27·9		−·0001	−·0001	+ 0·1	0·0	−·0001
44	46·7	90·5		27·9		−·0001	−·0001	+ 0·2	0·0	−·0001
50	46·7	90·2		28·0		−·0001	−·0001	+ 0·2	0·0	−·0001
56	46·8	90·2		28·0		−·0001	−·0001	+ 0·1	0·0	−·0001
02 02	47·0	90·3	61·4	28·5	61·4	·0000	−·0001	+ 0·2	− 0·2	−·0001
08	46·9	90·5		28·7		·0000	−·0001	0·0	− 0·2	−·0001
14	46·8	90·5		29·0		+·0001	−·0001	− 0·1	− 0·3	·0000
20	46·9	91·0		29·0		+·0001	−·0001	− 0·1	− 0·3	·0000

1842.
Cape of Good Hope.

September 22.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 2m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
						$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
22 02 26	46·8	90·0		30·1		·0000	·0000	− 0·2	0·0	·0000
32	46·9	90·7		29·5		+·0001	−·0001	− 0·2	− 0·3	·0000
38	47·1	90·8		29·5		+·0001	−·0001	0·0	− 0·3	·0000
44	47·1	91·2		29·4		+·0003	−·0001	− 0·1	− 0·7	·0000
50	46·9	91·6		29·5		+·0003	−·0002	− 0·2	− 0·8	·0000
56	46·8	92·0		29·5		+·0004	−·0002	− 0·4	− 1·0	·0000
03 02	46·6	92·1	61·7	29·5	61·6	+·0005	−·0002	− 0·5	− 1·2	·0000
08	46·2	91·8		30·1		+·0004	−·0002	− 0·8	− 1·0	·0000
14	46·0	91·6		30·1		+·0004	−·0002	− 0·9	− 1·0	·0000
20	46·2	91·1		30·1		+·0003	−·0002	− 0·7	− 0·8	·0000
26	46·7	91·5		29·8		+·0004	−·0003	− 0·3	− 1·2	−·0001
32	46·7	91·7		29·8		+·0004	−·0003	− 0·2	− 1·2	−·0001
38	46·6	91·6		30·2		+·0004	−·0003	− 0·2	− 1·2	−·0001
44	46·0	91·5		30·6		+·0004	−·0002	− 0·7	− 1·0	·0000
50	46·0	91·6		30·2		+·0004	−·0003	− 0·6	− 1·2	−·0001
56	46·2	91·4		30·8		+·0004	−·0003	− 0·5	− 1·2	−·0001
04 02	45·8	90·7	61·9	31·2	61·8	+·0003	−·0003	− 0·7	− 1·0	−·0001
08	45·9	90·8		31·1		+·0003	−·0003	− 0·5	− 1·0	−·0001
14	46·0	91·0		31·2		+·0004	−·0003	− 0·5	− 1·2	−·0001
20	45·9	91·0		30·9		+·0004	−·0003	− 0·5	− 1·2	−·0001
26	46·1	91·0		30·9		+·0004	−·0003	− 0·3	− 1·2	−·0001
32	46·0	91·0		31·4		+·0004	−·0003	− 0·3	− 1·2	−·0001
38	45·9	90·8		31·9		+·0004	−·0002	− 0·3	− 1·0	·0000
44	45·4	90·3		31·7		+·0003	−·0002	− 0·7	− 0·8	·0000
50	46·0	90·4		31·7		+·0003	−·0003	− 0·2	− 1·0	−·0001
56	46·0	90·4		31·7		+·0003	−·0003	− 0·2	− 1·0	−·0001
05 02	45·8	90·2	62·4	31·7	62·1	+·0003	−·0003	− 0·2	− 1·0	−·0001
08	45·8	90·3		31·9		+·0003	−·0002	− 0·2	− 0·8	·0000
14	45·8	90·3		32·0		+·0003	−·0002	− 0·2	− 0·8	·0000
20	45·6	90·3		32·0		+·0003	−·0002	− 0·4	− 0·8	·0000
26	45·2	90·3		31·6		+·0003	−·0003	− 0·7	− 1·0	−·0001
32	45·3	89·8		31·7		+·0002	−·0002	− 0·5	− 0·7	−·0001
38	45·2	89·7		31·8		+·0001	−·0002	− 0·6	− 0·5	−·0001
44	45·1	89·6		31·6		+·0001	−·0002	− 0·7	− 0·5	−·0001
50	45·3	89·7		31·4		+·0001	−·0003	− 0·5	− 0·7	−·0002
56	45·2	89·4		31·1		+·0001	−·0003	− 0·6	− 0·7	−·0002
06 02	45·7	89·4	62·7	30·8	62·3	+·0003	−·0003	− 0·2	− 1·0	−·0001
08	45·3	89·1		31·0		+·0003	−·0003	− 0·5	− 1·0	−·0001
14	45·5	88·9		30·8		+·0003	−·0003	− 0·4	− 1·0	−·0001
20	46·0	88·0		31·1		+·0001	−·0003	− 0·1	− 0·7	−·0002
26	45·9	88·0		31·4		+·0001	−·0002	− 0·2	− 0·5	−·0001
32	45·7	88·0		31·5		+·0001	−·0002	− 0·3	− 0·5	−·0001
38	45·3	87·4		32·1		·0000	−·0002	− 0·6	− 0·3	−·0001
44	45·0	87·1		32·8		·0000	−·0001	− 0·8	− 0·2	−·0001
50	44·8	85·9		33·7		−·0002	·0000	− 1·1	+ 0·3	−·0001
56	44·2	84·2		35·3		−·0005	+·0002	− 1·5	+ 1·2	·0000
07 02	44·0	83·2	62·9	36·9	62·6	−·0007	+·0004	− 1·7	+ 1·8	·0000
08	43·6	82·8		37·3		−·0008	+·0004	− 2·0	+ 2·0	·0000
14	43·8	83·1		37·9		−·0007	+·0005	− 1·8	+ 2·0	+·0001
20	43·2	81·7		38·9		−·0010	+·0006	− 2·3	+ 2·6	·0000
26	42·5	83·8		40·2		−·0006	+·0008	− 2·8	+ 2·3	+·0003
32	41·0	86·3		37·8		−·0002	+·0005	− 3·8	+ 1·2	+·0003
38	42·0	87·3		35·3		·0000	+·0002	− 3·1	+ 0·3	+·0001
44	43·8	87·0		33·1		·0000	·0000	− 1·7	0·0	·0000
50	44·8	86·0		32·4		−·0002	−·0001	− 1·0	+ 0·2	−·0001
56	45·1	85·0		33·0		−·0004	·0000	− 0·8	+ 0·7	−·0001
08 02	45·2	84·0	62·8	33·7	62·6	−·0006	+·0001	− 0·7	+ 1·2	−·0001
08	45·0	83·8		34·5		−·0006	+·0002	− 0·8	+ 1·3	−·0001
14	44·8	83·7		35·0		−·0007	+·0002	− 1·0	+ 1·5	−·0001
20	44·3	83·9		35·0		−·0006	+·0002	− 1·4	+ 1·3	−·0001
26	44·2	83·9		34·8		−·0006	+·0002	− 1·4	+ 1·3	−·0001
32	44·2	84·2		34·8		−·0006	+·0002	− 1·5	+ 1·3	−·0001

1842.
Cape of Good Hope.

September 22 & 29.

OBSERVATIONS OF THE MAGNETOMETERS. The Declination was observed 2m. before, and the V. F. 2m. after the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
22 08 38	44·2	84·0		34·3		−·0006	+·0002	− 1·5	+ 1·3	−·0001
44	44·2	84·2		34·0		−·0006	+·0001	− 1·5	+ 1·2	−·0001
50	44·2	84·3		33·6		−·0006	+·0001	− 1·5	+ 1·2	−·0001
56	44·7	84·4		33·3		−·0005	+·0001	− 1·1	+ 1·0	−·0001
09 02	44·8	84·3	62·8	33·3	62·6	−·0006	+·0001	− 1·1	+ 1·2	−·0001
08	44·9	84·9		32·9		−·0005	·0000	− 1·0	+ 0·8	−·0002
14	45·0	85·0		32·5		−·0004	·0000	− 0·9	+ 0·7	−·0001
20	45·0	85·1		32·5		−·0004	·0000	− 0·9	+ 0·7	−·0001
26	44·9	85·0		32·5		−·0004	·0000	− 1·0	+ 0·7	−·0001
32	44·8	85·0		32·5		−·0004	·0000	− 1·0	+ 0·7	−·0001
38	44·9	85·3		32·2		−·0004	−·0001	− 0·9	+ 0·5	−·0002
44	44·9	85·9		31·9		−·0003	−·0001	− 0·9	+ 0·3	−·0002
50	45·0	86·5		31·3		−·0002	−·0002	− 0·8	0·0	−·0002
56	45·0	87·0		30·6		−·0001	−·0002	− 0·8	− 0·2	−·0002
29 04 02	46·8	78·8	65·0	34·6	64·8	−·0010	+·0003	+ 0·1	+ 2·1	−·0002
08	46·7	78·8		34·9		−·0010	+·0003	+ 0·1	+ 2·1	−·0002
14	46·1	79·4		35·6		−·0009	+·0003	− 0·4	+ 2·0	−·0001
20	45·7	79·9		35·6		−·0008	+·0003	− 0·6	+ 1·8	−·0001
26	46·0	79·9		34·1		−·0007	+·0002	− 0·4	+ 1·5	−·0001
32	46·2	79·8		34·1		−·0008	+·0002	− 0·2	+ 1·7	−·0002
38	46·6	80·0		33·6		−·0007	+·0001	+ 0·2	+ 1·3	−·0002
44	46·7	80·0		33·6		−·0007	+·0001	+ 0·3	+ 1·3	−·0002
50	46·2	80·7		33·4		−·0006	+·0001	0·0	+ 1·2	−·0001
56	46·0	81·4		33·2		−·0005	·0000	− 0·2	+ 0·8	−·0002
05 02	46·0	81·7	65·3	32·4	65·0	−·0004	·0000	− 0·1	+ 0·7	−·0001
08	46·1	81·9		32·3		−·0004	·0000	0·0	+ 0·7	−·0001
14	46·1	82·1		31·4		−·0003	−·0001	0·0	+ 0·3	−·0002
20	46·1	82·1		31·1		−·0003	−·0002	0·0	+ 0·2	−·0002
26	46·1	82·2		30·8		−·0002	−·0002	0·0	0·0	−·0002
32	46·1	83·1		30·3		·0000	−·0002	+ 0·1	− 0·3	−·0001
38	46·1	83·3		30·0		·0000	−·0003	+ 0·1	− 0·5	−·0002
44	46·0	83·7		29·6		+·0001	−·0003	0·0	− 0·7	−·0002
50	46·0	83·7		29·3		+·0001	−·0003	0·0	− 0·7	−·0002
56	46·0	83·5		29·2		+·0001	−·0003	0·0	− 0·7	−·0002
06 02	46·0	83·9	65·9	28·9	65·6	+·0003	−·0004	0·0	− 1·2	−·0002
08	46·0	84·0		28·5		+·0003	−·0004	0·0	− 1·2	−·0002
14	46·0	83·9		28·3		+·0003	−·0004	0·0	− 1·2	−·0002
20	46·0	83·9		28·3		+·0003	−·0004	− 0·1	− 1·2	−·0002
26	46·0	83·7		28·3		+·0003	−·0004	− 0·1	− 1·2	−·0002
32	46·0	83·6		28·1		+·0003	−·0004	− 0·1	− 1·2	−·0002
38	46·1	83·8		28·0		+·0003	−·0005	0·0	− 1·3	−·0002
44	46·1	83·8		27·9		+·0003	−·0005	0·0	− 1·3	−·0002
50	46·2	83·8		27·7		+·0003	−·0005	0·0	− 1·3	−·0002
56	46·2	83·7		27·7		+·0003	−·0005	0·0	− 1·3	−·0002
07 02	46·5	83·4	66·1	27·4	65·7	+·0003	−·0005	+ 0·2	− 1·3	−·0002
08	46·7	—		—		—	—	+ 0·4	—	—
08 02	46·9	84·0	65·7	27·6	65·5	+·0003	−·0005	+ 0·6	− 1·3	−·0002
09 02	46·9	84·9	65·4	27·8	65·0	+·0003	−·0004	+ 0·5	− 1·2	−·0002

ST. HELENA, 1842. OCTOBER 12—13.

MEAN MONTHLY READINGS OF THE MGANETOMETERS.

Mean Göttingen Time.	Declination.	H. F. at 62°·1.	V. F. at 61°·7.	Mean Göttingen Time.	Declination.	H. F. at 62°·1.	V. F. at 61°·7.
Hours.	Sc. Div.	Sc. Div.	Sc. Div.	Hours.	Sc. Div.	Sc. Div.	Sc. Div.
00	23·9	68·1	46·3	12	21·4	59·7	47·5
01	24·7	68·1	46·6	13	21·1	60·1	47·3
02	24·1	67·2	46·9	14	20·8	60·2	47·5
03	22·4	65·7	47·1	15	20·5	60·4	47·3
04	20·5	63·9	47·5	16	20·3	60·5	47·1
05	19·3	62·7	47·9	17	20·0	60·5	47·0
06	19·5	61·5	47·8	18	20·2	60·4	47·3
07	20·4	60·3	47·8	19	20·6	60·1	46·9
08	20·7	59·6	47·9	20	18·4	61·3	47·1
09	20·9	58·9	47·8	21	18·1	63·1	46·8
10	21·2	59·1	47·7	22	19·4	65·1	46·5
11	21·5	59·2	47·5	23	21·4	67·0	46·3

Coefficients (A), Approximate Absolute Values (B.)

(A) Declin. a = 0′·711
H. F. k = ·00019, q = ·00028
V. F. k = ·0006, q = ·00002

(B) Approx. ψ = 23° 08′, X = 5·57, Y = 2·20, θ = − 21° 35′, ϕ = 6·00

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 2m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
12 22 02	18·9	70·7	62·0	42·8	61·6	+·0011	−·0022	− 0·4	− 3·9	+·0007
23 02	20·8	73·6	62·3	42·8	61·9	+·0013	−·0021	− 0·4	− 4·0	+·0008
13 00 02	23·9	74·8	62·7	42·9	62·2	+·0014	−·0020	0·0	− 4·0	+·0009
01 02	26·0	72·2	63·0	43·5	62·4	+·0010	−·0019	+ 0·9	− 3·4	+·0006
02 02	25·2	68·9	63·7	43·6	62·9	+·0008	−·0020	+ 0·8	− 3·3	+·0004
14	24·9	68·0		43·6		+·0007	−·0020	+ 0·8	− 3·2	+·0003
20	24·7	67·8		43·6		+·0007	−·0020	+ 0·8	− 3·2	+·0003
26	24·7	66·8		44·0		+·0005	−·0018	+ 0·9	− 2 7	+·0002
32	24·0	66·2		44·0		+·0005	−·0018	+ 0·6	− 2·7	+·0002
38	23·9	65·9		44·4		+·0004	−·0016	+ 0·6	− 2·4	+·0001
44	24·0	65·1		44·7		+·0003	−·0014	+ 0·8	− 2·0	+·0001
50	23·9	64·5		44·8		+·0003	−·0014	+ 0·8	− 2·0	+·0001
56	23·9	64·1		44·8		+·0002	−·0014	+ 0·9	− 1·9	·0000
03 02	23·9	63·8	64·1	44·8	63·5	+·0002	−·0014	+ 1·1	− 1·9	·0000
08	23·5	63·0		45·0		+·0001	−·0013	+ 0·9	− 1·7	−·0001
14	23·1	62·8		45·5		+·0001	−·0010	+ 0·8	− 1·3	·0000
20	22·9	62·1		45·5		·0000	−·0010	+ 0·8	− 1·2	−·0001
26	22·7	61·5		45·5		·0000	−·0011	+ 0·8	− 1·3	−·0001
32	22·1	61·0		45·7		·0000	−·0009	+ 0·5	− 0·9	−·0001
38	21·9	60·4		45·7		−·0001	−·0009	+ 0·4	− 0·9	−·0002
44	21·7	59·8		45·6		−·0002	−·0010	+ 0·4	− 0·9	−·0003
50	21·1	59·8		45·7		−·0001	−·0010	+ 0·1	0·9	−·0002
56	21·1	59·0		45·5		−·0002	−·0011	+ 0·3	− 0·9	−·0003
04 02	20·8	58·5	65·0	45·9	64·2	−·0002	−·0009	+ 0·2	− 0·8	−·0003
08	20·5	57·9		46·0		−·0003	−·0008	+ 0·1	− 0·6	−·0004
14	19·9	56·6		46·0		−·0005	−·0009	− 0·3	− 0·5	−·0006
20	19·4	55·9		46·0		−·0006	−·0009	− 0·5	− 0·2	−·0006
26	19·0	55·0		46·0		−·0008	−·0010	− 0·7	− 0·2	−·0008
32	19·0	54·2		46·5		−·0009	−·0007	− 0·6	+ 0·2	−·0009
38	18·9	54·0		46·2		−·0009	−·0008	− 0·6	+ 0·1	−·0009
44	18·9	53·9		46·7		−·0009	−·0006	− 0·6	+ 0·2	−·0009
50	18·8	53·8		46·7		−·0009	−·0006	− 0·5	+ 0·2	−·0009
56	18·7	53·8		46·1		−·0009	−·0010	− 0·5	− 0·1	−·0009
05 02	18·5	53·7	65·2	46·1	64·7	−·0009	−·0010	− 0·6	− 0·1	−·0009
08	18·6	53·9		46·6		−·0008	−·0007	− 0·5	+ 0·1	−·0008

1842.
St.. Helena.

October 13.

OBSERVATIONS OF THE MAGNETOMETERS. The Declination was observed 2m. before, and the V. F. 2m. after the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
13 05 14	18·8	53·9		46·4		−·0008	−·0008	− 0·4	0·0	−·0008
20	18·9	53·9		46·4		−·0007	−·0008	− 0·4	− 0·1	−·0007
26	18·9	53·9		46·3		−·0007	−·0009	− 0·4	− 0·2	−·0007
32	18·9	53·5		46·3		−·0007	−·0008	− 0·4	− 0·1	−·0007
38	19·0	53·1		46·3		−·0008	−·0008	− 0·3	0·0	−·0008
44	19·1	53·0		46·3		−·0008	−·0008	− 0·2	0·0	−·0008
50	19·5	53·0		46·3		−·0008	−·0008	0·0	0·0	−·0008
56	19·3	53·0		46·3		−·0007	−·0008	− 0·1	− 0·1	−·0007
06 02	19·9	52·2	65·4	46·3	65·0	−·0009	−·0008	+ 0·3	+ 0·1	−·0009
08	20·1	52·0		46·3		−·0009	−·0008	+ 0·4	+ 0·1	−·0009
14	20·1	51·9		46·3		−·0009	−·0008	+ 0·3	+ 0·1	−·0009
20	20·2	51·3		46·3		−·0010	−·0008	+ 0·3	+ 0·2	−·0010
26	20·7	51·0		46·3		−·0010	−·0008	+ 0·6	+ 0·2	−·0010
32	20·9	50·8		46·3		−·0011	−·0008	+ 0·6	+ 0·2	−·0011
38	21·0	50·0		46·3		−·0012	−·0008	+ 0·7	+ 0·5	−·0011
44	21·0	50·0		46·3		−·0012	−·0008	+ 0·6	+ 0·5	−·0011
50	21·1	50·0		46·3		−·0012	−·0008	+ 0·6	+ 0·5	−·0011
56	21·1	49·8		46·3		−·0012	−·0008	+ 0·6	+ 0·5	−·0011
07 02	21·1	49·1	65·0	46·3	64·5	−·0013	−·0008	+ 0·5	+ 0·6	−·0012
08	21·0	49·0		46·2		−·0013	−·0009	+ 0·4	+ 0·5	−·0012
14	20·8	49·0		46·2		−·0014	−·0009	+ 0·2	+ 0·6	−·0013
20	20·8	49·0		47·0		−·0013	−·0004	+ 0·2	+ 0·9	−·0012
26	20·8	49·1		46·7		−·0013	−·0006	+ 0·2	+ 0·8	−·0012
32	20·8	49·2		46·6		−·0013	−·0007	+ 0·1	+ 0·7	−·0012
38	20·7	49·2		46·6		−·0013	−·0007	+ 0·1	+ 0·7	−·0012
44	20·4	49·1		46·6		−·0013	−·0007	− 0·1	+ 0·7	−·0012
50	20·2	48·9		46·4		−·0013	−·0008	− 0·3	+ 0·6	−·0012
56	20·2	48·7		46·4		−·0014	−·0008	− 0·4	+ 0·7	−·0013
08 02	20·1	48·6	64·8	46·6	64·4	−·0014	−·0007	− 0·4	+ 0·8	−·0013
08	20·2	48·4		46·5		−·0014	−·0008	− 0·4	+ 0·7	−·0013
14	20·1	47·8		46·3		−·0015	−·0009	− 0·4	+ 0·7	−·0014
20	20·2	47·5		45·7		−·0016	−·0013	− 0·4	+ 0·2	−·0016
26	20·3	47·2		45·7		−·0016	−·0013	− 0·4	+ 0·2	−·0016
32	20·2	47·0		45·7		−·0017	−·0012	− 0·4	+ 0·6	−·0016
38	20·3	47·0		45·8		−·0017	−·0011	− 0·4	+ 0·7	−·0016
44	20·3	47·0		45·5		−·0017	−·0013	− 0·4	+ 0·5	−·0016
50	20·0	46·8		45·5		−·0017	−·0013	− 0·6	+ 0·5	−·0016
56	20·0	46·7		45·5		−·0017	−·0013	− 0·6	+ 0·5	−·0016
09 02	20·0	46·8	64·3	45·5	64·0	−·0017	−·0013	− 0·6	+ 0·5	−·0016
08	19·8	47·0		45·5		−·0017	−·0013	− 0·8	+ 0·5	−·0016
14	19·9	47·6		45·5		−·0016	−·0013	− 0·8	+ 0·2	−·0016
20	20·0	48·1		45·5		−·0015	−·0013	− 0·7	+ 0·2	−·0015
26	20·0	49·0		45·5		−·0013	−·0013	− 0·7	0·0	−·0013
32	20·2	49·9		45·5		−·0012	−·0013	− 0·6	− 0·1	−·0012
38	20·2	50·2		45·5		−·0011	−·0013	− 0·6	− 0·2	−·0011
44	20·4	51·0		45·5		−·0010	−·0013	− 0·5	− 0·2	−·0010
50	20·6	51·8		45·5		−·0008	−·0013	− 0·4	− 0·6	−·0009
56	20·7	52·0		45·5		−·0008	−·0013	− 0·4	− 0·6	−·0009
10 02	20·8	52·2	64·0	45·5	63·7	−·0008	−·0013	− 0·3	− 0·6	−·0009
08	20·6	52·1		45·5		−·0008	−·0013	− 0·4	− 0·6	−·0009
14	20·5	52·6		45·5		−·0007	−·0013	− 0·6	− 0·7	−·0008
20	20·6	52·7		45·5		−·0007	−·0012	− 0·5	− 0·6	−·0008
26	20·9	53·1		45·5		−·0006	−·0012	− 0·3	− 0·7	−·0007
32	20·8	53·2		45·5		−·0007	−·0013	− 0·4	− 0·7	−·0008
38	20·9	53·4		46·8		−·0006	−·0005	− 0·4	+ 0·1	−·0006
44	20·9	53·7		47·5		−·0006	−·0001	− 0·4	+ 0·6	−·0005
50	21·0	53·9		46·5		−·0005	−·0006	− 0·3	− 0·1	−·0005
56	21·0	54·2		46·7		−·0005	−·0005	− 0·4	0·0	−·0005
11 02	21·1	54·6	63·8	46·7	63·2	−·0004	−·0005	− 0·3	− 0·1	−·0004

1842.
St. Helena.
October 13.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 2m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
						$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta \psi$	$\Delta \theta$	$\frac{\Delta \phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
13 11 08	21·2	55·1		46·7		−·0003	−·0005	− 0·2	− 0·2	−·0003
14	21·3	56·0		46·8		−·0002	−·0004	− 0·1	− 0·2	−·0002
20	21·5	56·4		46·7		−·0001	−·0005	0·0	− 0·5	−·0002
26	21·7	56·7		46·7		−·0001	−·0005	+ 0·1	− 0·5	−·0002
32	21·8	57·0		46·5		·0000	−·0006	+ 0·3	− 0·7	−·0001
38	21·7	57·0		46·2		·0000	−·0008	+ 0·2	− 0·9	−·0001
44	21·5	57·0		46·2		−·0001	−·0008	+ 0·1	− 0·8	−·0002
50	21·6	57·4		46·2		·0000	−·0008	+ 0·1	− 0·9	−·0001
56	21·5	57·5		46·3		·0000	−·0007	+ 0·1	− 0·8	−·0001
12 02	21·4	57·6	63·6	46·2	63·2	·0000	−·0008	0·0	− 0·9	−·0001
08	21·3	57·6		45·8		·0000	−·0010	− 0·1	− 1·2	−·0001
14	21·1	57·7		45·7		·0000	−·0011	− 0·1	− 1·3	−·0001
20	21·1	57·9		45·7		·0000	−·0010	− 0·1	− 1·2	−·0001
26	21·2	58·3		45·7		+·0001	−·0010	− 0·1	− 1·3	·0000
32	21·2	58·6		46·2		+·0001	−·0007	0·0	− 0·9	·0000
38	21·5	58·8		46·1		+·0001	−·0008	+ 0·2	− 0·9	·0000
44	21·6	59·0		46·2		+·0001	−·0007	+ 0·3	− 0·9	·0000
50	21·7	59·2		46·1		+·0002	−·0007	+ 0·4	− 0·9	+·0001
56	21·4	59·2		46·1		+·0001	−·0007	+ 0·2	− 0·9	·0000
13 02	21·4	59·6	63·1	46·0	62·9	+·0002	−·0008	+ 0·2	− 1·2	+·0001
08	21·7	59·7		46·0		+·0002	−·0008	+ 0·4	− 1·2	+·0001
14	—	59·9		46·0		+·0003	−·0008	—	− 1·3	+·0002
20	21·7	59·8		45·7		+·0002	−·0010	+ 0·5	− 1·4	·0000
26	21·2	59·6		45·7		+·0002	−·0010	+ 0·1	− 1·4	·0000
32	21·2	59·2		45·6		+·0001	−·0011	+ 0·2	− 1·4	−·0001
38	20·9	58·6		45·7		·0000	−·0010	0·0	− 1·2	−·0001
44	20·8	58·9		46·1		·0000	−·0008	− 0·1	− 0·9	−·0001
50	21·0	59·3		45·9		+·0001	−·0010	+ 0·1	− 1·3	·0000
56	20·9	59·0		45·8		·0000	−·0010	+ 0·1	− 1·2	−·0001
14 02	20·4	59·3	63·0	45·5	62·8	+·0001	−·0012	− 0·3	− 1·4	−·0001
08	20·5	59·2		45 7		+·0001	−·0011	− 0·2	− 1·4	−·0001
14	20·4	59·0		45·8		·0000	−·0010	− 0·2	− 1·2	−·0001
20	20·4	59·0		45·8		·0000	−·0010	− 0·2	− 1·2	−·0001
26	20·4	58·9		45·8		·0000	−·0010	− 0·2	− 1·2	−·0001
32	20·4	58·9		45·8		·0000	−·0010	− 0·1	− 1·2	−·0001
15 02	20·3	58·0	63·0	(a)45·4	62·6	−·0002	−·0011	− 0·1	− 0·9	−·0003
32	19·7	58·0		(a)45·1		−·0002	−·0013	− 0·5	− 1·3	−·0003
16 02	19·1	60·5	62·9	(a)43·2	62·4	+·0002	−·0023	− 0·8	− 2·8	−·0001

(a) Observed 4m. before the times specified.

1842.
Cape of Good Hope.

October 13.

CAPE OF GOOD HOPE, 1842. OCTOBER 13—14.

MEAN MONTHLY READINGS OF THE MAGNETOMETERS.

Mean Göttingen Time.	Declination.	H. F. at 63°·1.	V. F. at 63°·1.	Mean Göttingen Time.	Declination.	H. F. at 63°·1.	V. F. at 63°·1.
Hours.	Sc. Div.	Sc. Div.	Sc. Div.	Hours.	Sc. Div.	Sc. Div.	Sc. Div.
00	45·5	91·3	33·9	12	44·8	90·4	40·0
01	46·7	91·3	34·6	13	44·7	91·0	40·0
02	47·0	92·0	36·5	14	44·5	90·9	39·8
03	46·1	91·7	39·2	15	44·2	91·0	39·7
04	45·0	90·7	41·4	16	43·9	91·1	40·1
05	44·0	89·6	42·0	17	43·7	91·4	40·1
06	44·3	89·4	41·0	18	42·9	92·1	41 1
07	44·5	89·0	40·6	19	41·1	93·0	42·3
08	44·8	88·8	40·3	20	39·3	92·8	42·2
09	44·7	88·7	40·6	21	39·0	92·0	40·0
10	44·8	89·6	39·9	22	40·6	91·3	37·0
11	44·8	89·8	40·0	23	43·2	90·9	34·7

Coefficients (A), Approximate Absolute Values (B).

(A)
- Declin. $a = 0'\cdot751$
- H. F. $k = \cdot00018$, $q = \cdot00028$
- V. F. $k = \cdot00015$, $q = \cdot00005$

(B) Approx.
- $\psi = 29^\circ 05'$
- X = 4·46
- Y = 6·00
- $\theta = -53^\circ 12'$
- $\phi = 7\cdot50$

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 2m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force
13 04 02	45·2	86·2	64·7	43·1	64·1	−·0004	+·0003	+ 0·2	+ 1·2	+·0001
32	—	81·2		44·9		−·0009	+·0005	—	+ 2·3	·0000
38	45·0	80·8		46·5		−·0011	+·0008	+ 0·5	+ 3·1	+·0001
44	44·4	80·1		47·2		−·0012	+·0009	+ 0·1	+ 3·5	+·0002
50	44·0	80·1		47·3		−·0012	+·0009	− 0·2	+ 3·5	+·0002
56	44·0	80·2		47·0		−·0011	+·0008	− 0·1	+ 3·1	+·0001
05 02	43·9	80·2	65·2	46·6	64·6	−·0011	+·0008	− 0·1	+ 3·1	+·0001
08	44·0	80·3		45·9		−·0011	+·0007	0·0	+ 3·0	+·0001
14	44·1	80·8		45·4		−·0010	+·0006	0·0	+ 2·6	·0000
20	44·0	81·0		45·0		−·0009	+·0006	− 0·1	+ 2·5	+·0001
26	44·0	81·1		44·6		−·0009	+·0006	− 0·1	+ 2·5	+·0001
32	44·0	81·1		44·1		−·0008	+·0005	− 0·2	+ 2·1	·0000
38	44·0	81·0		44·1		−·0009	+·0005	− 0·2	+ 2·3	·0000
44	43·5	80·9		44·1		−·0009	+·0005	− 0·5	+ 2·3	·0000
50	43·2	81·1		43·8		−·0008	+·0005	− 0·8	+ 2·1	·0000
56	43·1	81·3		43·2		−·0007	+·0004	− 0·9	+ 1·8	·0000
06 02	43·2	81·2	65·8	42·5	65·0	−·0007	+·0003	− 0·8	+ 1·7	·0000
08	43·9	81·0		42·5		−·0008	+·0003	− 0·3	+ 1·8	−·0001
14	43·9	80·4		42·3		−·0008	+·0003	− 0·3	+ 1·8	−·0001
20	43·9	80·1		42·1		−·0009	+·0003	− 0·4	+ 2·0	−·0001
26	44·0	79·7		42·2		−·0009	+·0003	− 0·3	+ 2·0	−·0001
32	44·8	78·9		41·9		−·0011	+·0003	+ 0·3	+ 2·3	−·0002
38	45·0	78·1		41·9		−·0012	+·0003	+ 0·5	+ 2·5	−·0002
44	45·1	77·8		42·1		−·0012	+·0003	+ 0·5	+ 2·5	−·0002
50	45·1	77·3		42·5		−·0013	+·0003	+ 0·5	+ 2·6	−·0003
56	45·1	76·8		43·0		−·0014	+·0005	+ 0·5	+ 3·1	−·0002
07 02	45·1	76·0	66·0	43·4	65·3	−·0015	+·0005	+ 0·5	+ 3·3	−·0002
08	45·0	75·7		44·3		−·0016	+·0007	+ 0·4	+ 3·8	−·0001
14	44·8	75·7		44·6		−·0016	+·0007	+ 0·2	+ 3·8	−·0001
20	44·1	76·1		44·9		−·0015	+·0008	− 0·4	+ 3·8	·0000
26	44·1	76·4		44·7		−·0014	+·0008	− 0·4	+ 3·6	·0000
32	44·0	76·7		44·4		−·0014	+·0007	− 0·5	+ 3·5	·0000
38	44·1	76·6		44·4		−·0014	+·0007	− 0·5	+ 3·5	·0000
44	44·0	76·6		44·8		−·0014	+·0008	− 0·5	+ 3·6	·0000
50	43·2	76·7		45·1		−·0014	+·0008	− 1·1	+ 3·6	·0000
56	43·1	76·8		45·1		−·0014	+·0008	− 1·3	+ 3·6	·0000
08 02	43·1	76·8	65·9	44·4	65·2	−·0014	+·0007	− 1·3	+ 3·5	·0000
08	43·7	76·5		44·3		−·0014	+·0007	− 0·8	+ 3·5	·0000
14	43·8	75·9		44·6		−·0016	+·0007	− 0·8	+ 3·8	−·0001
20	43·5	75·3		44·9		−·0017	+·0008	− 1·0	+ 4·1	−·0001

1842.
Cape of Good Hope.
October 13—14.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 2m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
13 08 26	43·2	75·2		45·3		−·0017	+·0008	− 1·2	+ 4·1	−·0001
32	43·1	75·0		45·6		−·0017	+·0009	− 1·2	+ 4·3	·0000
38	43·0	75·2		45·8		−·0017	+·0009	− 1·3	+ 4·3	·0000
44	42·9	75·2		46·2		−·0017	+·0010	− 1·4	+ 4·4	·0000
50	42·1	75·1		46·3		−·0017	+·0010	− 2·0	+ 4·4	·0000
56	42·0	75·0		46·0		−·0017	+·0009	− 2·0	+ 4·3	·0000
09 02	41·9	74·9	65·7	45·8	65·1	−·0018	+·0009	− 2·1	+ 4·4	−·0001
08	41·8	75·2		45·0		−·0017	+·0008	− 2·2	+ 4·1	−·0001
14	41·9	76·0		44·1		−·0016	+·0007	− 2·1	+ 3·8	−·0001
20	42·1	76·8		43·2		−·0015	+·0005	− 2·0	+ 3·3	−·0002
26	42·3	76·7		42·3		−·0015	+·0004	− 1·8	+ 3·1	−·0003
32	42·6	78·8		41·4		−·0012	+ 0003	− 1·7	+ 2·5	−·0002
38	43·0	79·6		40·3		−·0010	+·0001	− 1·4	+ 1·8	−·0003
44	43·0	80·3		39·6		−·0010	·0000	− 1·4	+ 1·7	−·0004
50	43·3	81·0		38·9		−·0009	−·0001	− 1·1	+ 1·3	−·0004
56	43·3	81·5		38·6		−·0008	−·0001	− 1·1	+ 1·2	−·0003
10 02	43·4	81·7	65·4	38·6	64·8	−·0008	−·0001	− 1·1	+ 1·2	−·0003
11 02	44·5	84·6	64·9	36·4	64·6	−·0004	−·0005	− 0·2	− 0·2	−·0005
12 02	45·0	87·4	64·5	35·3	64·3	−·0001	−·0007	+ 0·2	− 1·0	−·0005
13 02	45·3	90·0	64·3	35·0	64·1	+·0002	−·0007	+ 0·5	− 1·5	−·0004
14 02	44·3	90·1	63·9	36·8	63·8	+·0001	−·0004	− 0·2	− 0·8	−·0002
15 02	44·0	89·1	63·7	38·7	63·7	−·0002	−·0001	− 0 2	+ 0·2	−·0001
16 02	43·8	91·8	63·5	38·6	63·6	+·0002	−·0002	− 0·1	− 0·7	−·0001
17 02	43·9	93·3	63·2	36·3	63·3	+·0004	−·0006	+ 0·2	− 1·7	−·0002
18 02	43·0	93·2	63·1	39·9	63·3	+·0001	−·0002	+ 0·1	− 0·5	−·0001
19 02	41·0	95·7	63·0	40·8	63·2	+·0005	−·0002	− 0·1	− 1·2	·0000
20 02	39·2	95·6	63·3	38·8	63·4	+·0006	−·0005	− 0·1	− 1·8	−·0001
21 02	38·8	95·1	63·6	37·8	63·6	+·0007	−·0003	− 0·2	− 1·7	+·0001
22 02	40·9	92·3	63·9	36·9	63·6	+·0004	·0000	+ 0·2	− 0·7	+·0001
23 02	42·6	90·8	64·4	34·7	64·1	+·0003	+·0001	− 0·5	− 0·3	+·0002
14 00 02	44·2	90·5	65·0	32·7	64·5	+·0002	−·0001	− 1·0	− 0·5	·0000
01 02	45·1	89·0	65·6	33·4	65·1	+·0003	−·0001	− 1·2	− 0·7	·0000
02 02	44·6	88·2	66·3	35·0	65·7	+·0002	−·0001	− 1·8	− 0·5	·0000
03 02	44·4	85·2	66·9	37·7	66·2	−·0001	−·0001	− 1·3	0·0	−·0001
04 02	43·4	77·5	67·5	43·1	66·6	−·0011	+·0004	− 1·2	+ 2·5	−·0001
08	43·2	76·9		43·6		−·0012	+·0005	− 1·3	+ 2·8	−·0001
14	43·0	75·9		44·0		−·0014	+·0005	− 1·4	+ 3·1	−·0002
20	43·2	75·2		44·2		−·0015	+·0006	− 1·1	+ 3·5	−·0001
26	43·3	74·4		44·7		−·0016	+·0006	− 1·0	+ 3·6	−·0002
32	43·5	74·0		45·2		−·0016	+·0007	− 0·8	+ 3·8	−·0001
38	43·2	73·1		45·8		−·0018	+·0008	− 0·9	+ 4·3	−·0001
44	42·9	73·1		46·0		−·0018	+·0008	− 1·1	+ 4·3	−·0001
50	42·5	73·6		45·8		−·0017	+·0008	− 1·3	+ 4·1	−·0001
56	42·5	73·9		44·7		−·0016	+·0008	− 1·2	+ 3·6	−·0002
05 02	42·9	74·2	67·6	43·9	66·8	−·0015	+·0005	− 0·8	+ 3·3	−·0002
08	43·1	74·8		43·4		−·0014	+·0004	− 0·7	+ 3·0	−·0002
14	43·1	74·9		43·5		−·0014	+·0005	− 0·8	+ 3·1	−·0002
20	43·0	74·8		43·2		−·0014	+·0004	− 0·8	+ 3·0	−·0002
26	43·2	75·1		42·6		−·0013	+·0004	− 0·7	+ 2·8	−·0002
32	43·2	75·6		42·3		−·0012	+·0003	− 0·8	+ 2·5	−·0002
38	43·0	75·4		42·0		−·0012	+·0003	− 0·9	+ 2·5	−·0002
44	42·9	75·1		42·0		−·0013	+·0003	− 1·0	+ 2·6	−·0003
50	43·0	74·5		41·7		−·0014	+·0003	− 0·9	+ 2·8	−·0003
56	43·1	74·1		41·4		−·0014	+·0003	− 0·9	+ 2·8	−·0003
06 02	43·2	74·1	67·8	41·2	67·1	−·0014	+·0002	− 0·8	+ 2·6	−·0004
08	43·2	74·3		41·5		−·0014	+·0003	− 0·8	+ 2·8	−·0003
14	43·0	74·6		41·6		−·0013	+·0003	− 1·0	+ 2·6	−·0003
20	42·3	75·7		41·9		−·0011	+·0004	− 1·6	+ 2·5	−·0001
26	42·0	77·1		41·3		−·0009	+·0003	− 1·8	+ 2·0	−·0001
32	41·9	78·5		40·0		−·0006	+·0001	− 1·9	+ 1·2	−·0001
38	42·0	79·0		38·5		−·0005	− 0001	− 1·8	+ 0·7	−·0002
44	42·2	79·2		37·9		−·0005	−·0002	− 1·8	+ 0·5	−·0003

1842.
Cape of Good Hope.

October 14.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 2m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours. $\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
14 06 50	42·6	79·6		37·6		−·0004	−·0003	− 1·4	+ 0·2	−·0003
56	42·8	80·0		37·0		−·0003	−·0004	− 1·3	− 0·2	−·0004
07 02	43·0	80·0	67·9	36·4	67·0	−·0003	−·0004	− 1·1	− 0·2	−·0004
08	43·1	80·0		36·4		−·0003	−·0004	− 1·1	− 0·2	−·0004
14	43·2	80·2		35·9		−·0003	−·0005	− 1·1	− 0·3	−·0004
20	43·8	80·2		35·9		−·0002	−·0005	− 0·6	− 0·5	−·0004
26	44·0	80·3		35·3		−·0002	−·0006	− 0·5	− 0·7	−·0005
32	44·0	80·4		35·3		−·0002	−·0006	− 0·5	− 0·7	−·0005
38	44·1	80·4		35·3		−·0002	−·0006	− 0·5	− 0·7	−·0005
44	44·2	80·7		35·1		−·0002	−·0006	− 0·4	− 0·7	−·0005
50	44·2	80·6		35·1		−·0002	−·0006	− 0·4	− 0·7	−·0005
56	44·2	80·6		35·1		−·0002	−·0006	− 0·5	− 0·7	−·0005
08 02	44·4	81·0	67·7	35·1	67·1	−·0001	−·0006	− 0·3	− 0·8	−·0004
08	44·4	81·2		35·1		−·0001	−·0006	− 0·3	− 0·8	−·0004
14	44·3	81·2		35·1		−·0001	−·0006	− 0·4	− 0·8	−·0004
20	44·3	—		—		—	—	− 0·4	—	—
09 02	45·0	82·1	67·5	35·1	67·8	·0000	−·0006	+ 0·2	− 1·0	−·0004

VAN DIEMEN ISLAND, 1842. NOVEMBER 9—10.

1842.
Van Diemen Island.

November 9—10.

MEAN MONTHLY READINGS OF THE MAGNETOMETERS.

Mean Göttingen Time.	Declination.	H. F. at 57°·8.	V. F. at 55°·4.	Mean Göttingen Time.	Declination.	H. F. at 57°·8.	V. F. at 55°·4.
Hours.	Sc. Div.	Sc. Div.	Sc. Div.	Hours.	Sc. Div.	Sc. Div.	Sc. Div
00	80·3	76·0	57·0	12	73·7	66·6	51·6
01	78·3	75·7	53·3	13	76·9	64·1	57·9
02	78·5	75·3	54·4	14	81·4	64·1	59·8
03	78·8	75·1	50·2	15	85·5	68·8	59·4
04	79·6	75·4	53·3	16	88·7	73·6	61·7
05	80·0	75·6	52·4	17	90·1	77·5	61·3
06	79·9	74·8	51·6	18	88·5	78·8	59·6
07	79·6	75·2	51·3	19	86·5	78·9	59·7
08	78·8	74·9	50·1	20	84·8	78·2	61·9
09	77·1	74·6	48·8	21	82·6	77·2	61·6
10	75·2	73·0	48·2	22	81·5	77·9	60·1
11	74·0	70·3	50·4	23	80·6	76·8	58·5

Coefficients (A), Approximate Absolute Values (B.)

(A) Declin. a = 0′·71
H. F. k = ·000120, q = ·000234
V. F. k = ·000038, q = ·00021

(B) Approx. ψ = − 9° 55′, X = 4·51, Y = 12·86, θ = − 70° 37′, ϕ = 13·62

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 2m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours. $\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
9 18 02	92·9	65·3	65·8	18·8	63·6	+·0003	+·0002	+ 3·1	− 0·1	+·0002
19 02	90·4	69·6	65·5	14·7	63·5	+·0007	·0000	+ 2·7	− 0·8	+·0001
20 02	89·4	67·0	65·2	22·8	63·4	+·0004	+·0002	+ 3·2	− 0·2	+·0002
31 02	85·8	69·3	64·6	29·2	62·9	+·0007	+·0003	+ 2·3	− 0·4	+·0003
22 02	83·3	65·6	64·0	21·2	62·5	·0000	·0000	+ 1·3	0·0	·0000
23 02	83·9	58·9	62·6	43·9	61·5	−·0010	+·0007	+ 2·3	+ 1·8	+·0005
10 00 02	86·1	66·4	61·2	18·5	60·5	−·0004	−·0004	+ 4·2	0·0	−·0004
01 02	58·7	57·8	61·1	19·7	60·7	−·0014	−·0002	−13·9	+ 1·3	−·0003
08	57·1	56·3		20·2		−·0016	−·0001	−15·0	+ 1·6	−·0003
14	56·0	58·2		21·8		−·0013	−·0001	−15·8	+ 1·3	−·0002

1842.
Van Diemen Island.

November 10.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 2m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
10 01 20	57·1	58·7		22·9		−·0013	·0000	−15·1	+ 1·4	−·0001
26	58·5	58·7		23·0		−·0013	·0000	−14·1	+ 1·4	−·0001
32	60·4	57·7		24·4		−·0014	·0000	−12·8	+ 1·5	−·0001
38	62·1	56·5		25·3		−·0015	+·0001	−11·6	+ 1·7	−·0001
44	63·1	56·2		27·6		−·0015	+·0002	−10·9	+ 1·8	·0000
50	64·8	56·0		29·3		−·0016	+·0002	− 9·7	+ 1·9	·0000
56	66·8	56·6		30·1		−·0015	+·0003	− 8·3	+ 1·9	+·0001
02 02	68·0	58·0	61·0	27·6	61·0	−·0013	+·0002	− 7·5	+ 1·6	·0000
08	67·5	58·5		26·5		−·0013	+·0001	− 7·8	+ 1·5	·0000
14	68·5	57·7		25·7		−·0014	+·0001	− 7·2	+ 1·6	−·0001
20	68·2	55·5		25·7		−·0016	+·0001	− 7·4	+ 1·8	−·0001
26	68·6	54·9		27·5		−·0017	+·0002	− 7·1	+ 2·0	·0000
32	74·9	55·2		29·3		−·0017	+·0002	− 2·7	+ 2·0	·0000
38	72·4	57·3		32·0		−·0015	+·0003	− 4·5	+ 1·9	+·0001
44	74·7	57·6		30·8		−·0014	+·0003	− 2·8	+ 1·8	+·0001
50	75·3	61·2		29·3		−·0010	+·0002	− 2·4	+ 1·3	+·0001
56	76·9	63·8		26·7		−·0007	+·0001	− 1·3	+ 0·9	·0000
03 02	77·7	65·3	60·5	26·7	60·3	−·0005	+·0001	− 0·8	+ 0·7	·0000
04 02	80·6	73·2	60·0	18·8	59·6	+·0003	−·0004	+ 0·7	− 0·8	−·0003
05 02	79·7	74·1	59·3	26·9	58·8	+·0002	−·0003	− 0·2	− 0·5	−·0002
06 02	75·1	74·2	58·6	24·9	58·0	+·0001	−·0005	− 3·4	− 0·7	−·0004
07 02	79·8	71·4	58·0	32·6	57·4	−·0004	−·0003	+ 0·1	+ 0·1	−·0003
08 02	77·3	65·2	57·4	38·1	56·8	−·0013	−·0002	− 1·1	+ 1·2	−·0003
09 02	78·8	62·7	57·7	45·2	57·1	−·0015	+·0002	+ 1·2	+ 1·8	·0000
10 02	75·7	67·0	58·0	32·9	57·5	−·0007	−·0001	+ 0·4	+ 0·7	−·0002
11 02	77·5	61·9	58·5	34·5	58·0	−·0008	−·0001	+ 2·5	+ 0·8	−·0002

1842.
Toronto.

November 9—10.

TORONTO, 1842. NOVEMBER 9—10.

MEAN MONTHLY READINGS OF THE MAGNETOMETERS.

Mean Göttingen Time.	Declination.	H. F. at 47°·2.	V. F. at 47°·7.	Mean Göttingen Time.	Declination.	H. F. at 47°·2.	V. F. at 47°·7.
Hours.	Sc. Div.	Sc. Div.	Sc. Div.	Hours.	Sc. Div.	Sc. Div.	Sc. Div.
00	129·0	469·6	75·6	12	128·9	470·3	77·3
01	129·5	466·7	75·3	13	129·3	468·9	76·9
02	130·4	463·3	75·5	14	130·0	467·7	77·2
03	130·2	457·6	75·7	15	130·0	466·3	77·0
04	127·5	452·5	75·5	16	130·1	464·0	76·7
05	124·8	452·7	75·6	17	130·0	464·9	76·6
06	122·5	455·9	76·0	18	129·4	462·5	75·8
07	122·1	460·6	76·7	19	127·8	462·9	75·9
08	122·8	466·3	77·3	20	127·4	465·8	75·2
09	124·9	469·4	77·3	21	128·4	466·4	75·7
10	125·9	470·9	77·2	22	129·0	466·9	75·4
11	126·6.	469·8	77·3	23	130·3	468·4	76·1

Coefficients (A), Approximate Absolute Values (B.)

(A)
- Declin. $a = 0'·721$
- H. F. $h = ·000074$, $q = ·0026$
- V. F. $h = ·000094$, $q = ·00011$

(B) Approx.
- $\psi = 1°22'$
- $X = 3·54$
- $Y = 13·44$
- $\theta = 75°16'$
- $\phi = 13·90$

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 2m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total For ce.
9 23 02	144·7	472·0	49·5	58·6	50·2	+·0009	−·0004	+10·4	+ 1·1	+·0021
10 00 02	115·2	450·4	49·2	66·9	50·2	−·0009	−·0005	−10·0	+ 0·3	−·0005
01 02	108·3	467·5	49·0	—	50·2	—	—	−15·2	—	—
20	115·8	—		—		—	—	−10·1	—	—

1842.
Toronto.

November 10.

OBSERVATIONS OF THE MAGNETOMETERS. The Declination was observed 2m. before, and the V. F. 2m. after the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta \psi$	$\Delta \theta$	$\frac{\Delta \phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
10 01 26	117·5	467·5		62·9		+·0006	−·0009	− 8·9	− 1·3	−·0008
32	120·5	464·0		63·3		+·0004	−·0009	− 6·9	− 1·1	−·0008
38	123·8	470·2		64·4		+·0009	−·0008	− 4·4	− 1·4	−·0007
44	125·8	468·4		65·2		+·0008	−·0007	− 3·1	− 1·3	−·0006
50	126·1	466·1		68·2		+·0006	−·0004	− 3·0	− 0·9	−·0003
56	126·7	460·1		65·2		+·0002	−·0007	− 2·6	− 0·8	−·0006
02 02	129·7	456·6	49·0	66·9	50·0	·0000	−·0006	− 0·5	− 0·5	−·0006
08	132·0	458·4		67·4		+·0002	−·0005	+ 1·1	− 0·6	−·0005
14	130·0	453·4		67·1		−·0002	−·0005	− 0·3	− 0·2	−·0005
20	128·6	455·8		67·4		·0000	−·0005	− 1·2	− 0·4	−·0005
26	127·1	457·9		67·2		+·0002	−·0005	− 2·3	− 0·6	−·0005
32	126·9	449·0		67·3		−·0004	−·0005	− 2·5	− 0·1	−·0005
38	124·9	454·5		67·3		+·0001	−·0005	− 3·9	− 0·5	−·0005
44	125·0	451·6		68·0		−·0001	−·0005	− 3·8	− 0·3	−·0005
50	125·2	448·6		68·0		−·0003	−·0005	− 3·6	− 0·2	−·0005
56	127·8	445·6		68·5		−·0005	−·0004	− 1·7	+ 0·1	−·0004
03 02	128·2	441·8	49·0	69·1	50·0	−·0007	−·0004	− 1·4	+ 0·2	−·0004
08	130·4	440·8		69·3		−·0007	−·0004	+ 0·4	+ 0·2	−·0004
14	132·1	438·4		70·1		−·0009	−·0003	+ 1·7	+ 0·5	−·0003
20	131·6	438·6		70·1		−·0008	−·0003	+ 1·5	+ 0·3	−·0003
26	128·7	431·5		70·1		−·0013	−·0003	− 0·3	+ 0·9	−·0004
32	127·8	425·0		70·1		−·0018	−·0003	− 0·7	+ 1·3	−·0004
38	126·3	419·7		70·1		−·0021	−·0003	− 1·6	+ 1·5	−·0004
44	124·8	412·1		70·1		−·0026	−·0003	− 2·6	+ 1·9	−·0005
50	122·8	410·2		70·1		−·0027	−·0003	− 3·7	+ 2·0	−·0005
56	122·1	405·5		70·8		−·0031	−·0002	− 4·1	+ 2·4	−·0004
04 02	121·1	406·1	49·0	71·8	49·7	−·0030	−·0001	− 4·6	+ 2·4	−·0003
08	126·3	412·4		71·8		−·0025	−·0001	− 0·6	+ 2·0	−·0003
14	125·9	418·8		72·4		−·0020	−·0001	− 0·8	+ 1·6	−·0002
20	126·5	421·8		72·4		−·0018	−·0001	− 0·1	+ 1·4	−·0002
26	125·4	423·7		72·4		−·0017	−·0001	− 0·7	+ 1·4	−·0002
32	125·3	427·5		72·9		−·0014	·0000	− 0·6	+ 1·2	−·0001
38	125·3	431·7		72·9		−·0011	·0000	− 0·4	+ 0·9	−·0001
44	124·1	432·7		72·9		−·0010	·0000	− 1·1	+ 0·9	−·0001
50	123·9	433·8		72·9		−·0009	·0000	− 1·0	+ 0·8	−·0001
56	122·9	432·1		72·9		−·0011	·0000	− 1·5	+ 0·9	−·0001
05 02	124·0	436·3	49·0	72·9	49·9	−·0008	·0000	− 0·6	+ 0·7	·0000
08	122·8	437·0		72·9		−·0007	·0000	− 1·3	+ 0·6	·0000
14	121·3	434·8		73·1		−·0009	·0000	− 2·2	+ 0·8	−·0001
20	121·0	436·7		73·1		−·0008	·0000	− 2·3	+ 0·7	·0000
26	120·4	432·2		73·1		−·0012	·0000	− 2·6	+ 1·0	−·0001
32	119·8	433·0		73·1		−·0011	·0000	− 2·8	+ 0·9	−·0001
38	119·3	433·5		74·0		−·0011	+·0001	− 3·0	+ 1·0	·0000
44	118·5	429·9		74·0		−·0014	+·0001	− 3·4	+ 1·2	·0000
50	117·3	430·3		74·0		−·0014	+·0001	− 4·1	+ 1·2	·0000
56	116·2	427·6		74·0		−·0017	+·0001	− 4·7	+ 1·5	·0000
06 02	116·6	425·6	48·8	74·6	50·0	−·0018	+·0001	− 4·2	+ 1·6	·0000
08	116·3	422·3		74 6		−·0021	+ 0001	− 4·4	+ 1·9	·0000
14	116·6	419·9		74·6		−·0023	+·0001	− 4·2	+ 2·0	−·0001
20	116·0	422·6		74·2		−·0021	+·0001	− 4·6	+ 1·9	·0000
26	115·2	423·0		74·7		−·0021	+·0001	− 5·1	+ 1·9	·0000
32	115·6	428·2		74·7		−·0018	+·0001	− 4·8	+ 1·6	·0000
38	116·5	431·6		74·7		−·0015	+·0001	− 4·2	+ 1·4	·0000
44	116·6	431·4		74·7		−·0016	+·0001	− 4·0	+ 1·4	·0000
50	117·6	438·5		75·4		−·0011	+·0001	− 3·3	+ 1·0	·0000
56	118·6	441·4		75·3		−·0009	+·0001	− 2·6	+ 0·9	·0000
07 02	119·1	442·0	49·2	75·3	49·7	−·0009	+·0001	− 2·2	+ 0·9	·0000
08	119·3	444·1		75·3		−·0008	+·0001	− 2·0	+ 0·8	·0000
14	119·7	438·7		75·3		−·0012	+·0001	− 1·8	+ 1·1	·0000
20	120·5	448·0		75·3		−·0006	+·0001	− 1·3	+ 0·6	+·0001
26	120·7	448·2		75·3		−·0006	+·0001	− 1·2	+ 0·6	+·0001
32	121·2	450·5		75·9		−·0005	+·0001	− 0·9	+ 0·5	+·0001

1842. Toronto. — — November 10.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 2m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
						$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
10 07 38	121·1	450·8		75·9		−·0005	+·0001	− 1·0	+ 0·5	+·0001
44	120·4	449·9		75·9		−·0006	+·0001	− 1·5	+ 0·6	+·0001
50	121·2	444·0		75·9		−·0011	+·0001	− 1·1	+ 1·0	·0000
56	121·3	450·3		75·9		−·0007	+·0001	− 1·0	+ 0·7	+·0001
08 02	121·2	450·2	49·0	75·9	49·5	−·0007	+·0001	− 1·1	+ 0·7	+·0001
09 02	123·0	445·5	51·4	77·1	49·7	−·0007	+·0002	− 1·3	+ 0·8	+·0001

ST. HELENA, 1842. NOVEMBER 10.

1842. St. Helena. — November 10.

MEAN MONTHLY READINGS OF THE MAGNETOMETERS.

Mean Göttingen Time.	Declination.	H. F. at 63°·3.	V. F. at 62°·9.	Mean Göttingen Time.	Declination.	H. F. at 63°·3.	V. F. at 62°·9.
Hours.	Sc. Div.	Sc. Div.	Sc. Div.	Hours.	Sc. Div.	Sc. Div.	Sc. Div.
00	20·5	63·9	51·2	12	20·7	58·1	52·6
01	21·5	63·7	51·2	13	20·3	58·0	52·3
02	21·2	63·6	51·3	14	20·0	58·2	52·0
03	20·7	63·0	51·4	15	19·6	58·5	52·1
04	19·9	62·4	51·6	16	19·2	58·7	52·0
05	18·9	61·7	52·1	17	18·7	58·8	52·0
06	18·7	60·5	52·2	18	18·5	58·7	52·0
07	19·4	59·3	52·3	19	18·1	59·0	51·9
08	20·2	58·7	52·7	20	16·3	60·6	52·0
09	20·5	58·3	52·6	21	16·1	61·9	51·9
10	20·7	57·6	52·5	22	17·2	62·9	51·8
11	20·8	57·7	52·6	23	18·8	63·6	51·6

Coefficients (A), Approximate Absolute Values (B).

(A) Declin. a = 0′·711
H. F. k = ·00019, q = ·00028
V. F. k = ·0006, q = ·00002

(B) Approx. ψ = 23° 09′, X = 5·57, Y = 2·21, θ = −21° 36′, ϕ = 6·00

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 2m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
						$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
10 00 02	22·8	57·7	63·1	50·6	62·6	−·0012	−·0004	+ 1·6	+ 0·9	−·0011
01 02	21·9	53·1	63·3	50·0	63·0	−·0020	−·0007	+ 0·3	+ 1·4	−·0018
08	21·1	53·0		50·0		−·0020	−·0007	− 0·3	+ 1·4	−·0018
14	21·0	53·1		50·5		−·0020	−·0004	− 0·3	+ 1·9	−·0018
20	21·0	53·1		50·5		−·0020	−·0004	− 0·3	+ 1·9	−·0018
26	21·0	53·1		50·5		−·0020	−·0004	− 0·3	+ 1·9	−·0018
32	20·9	53·7		50·5		−·0018	−·0005	− 0·3	+ 1·4	−·0016
38	20·8	53·9		50·5		−·0018	−·0005	− 0·4	+ 1·4	−·0016
44	20·2	54·0		50·5		−·0018	−·0005	− 0·8	+ 1·4	−·0016
50	20·1	54·0		50·5		−·0017	−·0005	− 0·8	+ 1·4	−·0015
56	20·1	54·2		50·9		−·0017	−·0002	− 0·8	+ 1·8	−·0015
02 02	21·0	54·6	63·7	50·9	63·2	−·0016	−·0002	− 0·1	+ 1·7	−·0014
08	21·1	54·9		50·9		−·0015	−·0002	0·0	+ 1·4	−·0013
14	21·6	54·9		50·9		−·0015	−·0002	+ 0·4	+ 1·4	−·0013
20	21·8	54·3		50·9		−·0016	−·0002	+ 0·6	+ 1·7	−·0014
26	21·2	54·2		50·9		−·0016	−·0002	+ 0·1	+ 1·7	−·0014
32	21·0	54·1		50·9		−·0016	−·0003	+ 0·1	+ 1·4	−·0014
38	20·6	54·2		50·8		−·0016	−·0004	− 0·2	+ 1·4	−·0014
44	20·4	54·1		50·8		−·0016	−·0004	− 0·3	+ 1·4	−·0014
50	20·5	54·3		50·9		−·0015	−·0003	− 0·2	+ 1·4	−·0013
56	20·6	54·2		51·3		−·0015	−·0001	− 0·1	+ 1·7	−·0013

1842. St. Helena. November 10.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 2m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
						$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta \psi$	$\Delta \theta$	$\frac{\Delta \phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
10 03 02	20·8	54·4	63·9	51·4	63·6	−·0015	·0000	+ 0·1	+ 1·8	−·0013
08	20·2	54·8		51·3		−·0014	−·0001	− 0·3	+ 1·4	−·0012
14	20·2	54·8		51·3		−·0014	−·0001	− 0·2	+ 1·4	−·0012
20	20·8	54·3		51·3		−·0014	−·0001	+ 0·2	+ 1·4	−·0012
26	20·8	54·2		51·5		−·0015	·0000	+ 0·3	+ 1·8	−·0013
32	20·7	53·6		51·5		−·0015	·0000	+ 0·3	+ 1·8	−·0013
38	20·5	51·4		51·5		−·0019	·0000	+ 0·2	+ 2·1	−·0017
44	20·3	50·1		51·6		−·0022	−·0001	+ 0·1	+ 2·7	−·0019
50	20·2	50·0		52·2		−·0022	−·0004	+ 0·1	+ 3·1	−·0018
56	20·8	50·4		52·1		−·0021	−·0003	+ 0·6	+ 2·8	−·0018
04 02	20·9	51·2	64·0	52·1	63·5	−·0019	+·0003	+ 0·7	+ 2·6	−·0016
08	21·0	52·2		52·6		−·0017	+·0005	+ 0·8	+ 2·6	−·0014
14	20·9	53·6		52·2		−·0015	+·0003	+ 0·8	+ 2·1	−·0013
20	20·7	54·4		52·4		−·0013	+·0004	+ 0·8	+ 2·0	−·0011
26	20·4	54·8		52·4		−·0012	+·0004	+ 0·6	+ 1·9	−·0010
32	20·2	55·4		52·4		−·0011	+·0003	+ 0·6	+ 1·7	−·0009
38	20·0	55·8		52·3		−·0010	+·0002	+ 0·5	+ 1·4	−·0008
44	19·9	56·0		52·4		−·0009	+·0002	+ 0·5	+ 1·3	−·0008
50	19·8	56·1		52·4		−·0009	+·0002	+ 0·5	+ 1·3	−·0008
56	19·6	56·1		52·3		−·0009	+·0001	+ 0·4	+ 1·2	−·0008
05 02	19·6	56·2	64·1	52·3	63·7	−·0008	+·0001	+ 0·5	+ 1·1	−·0007
32	19·0	54·2		(a) 51·3		−·0011	−·0005	+ 0·1	+ 0·7	−·0010
06 02	18·0	50·8	64·2	(a) 51·3	63·7	−·0016	−·0005	− 0·5	+ 1·3	−·0015
32	18·6	50·2		(a) 51·4		−·0016	−·0005	− 0·4	+ 1·3	−·0015
07 02	18·7	52·0	64·0	(a) 51·6	63·7	−·0012	−·0004	− 0·5	+ 0·9	−·0011
08 02	19·8	52·5	63·8	50·9	63·6	−·0011	−·0011	− 0·3	0·0	−·0011
09 02	20·7	55·8	63·6	50·7	63·3	−·0004	−·0011	+ 0·1	− 0·8	−·0005
10 02	20·6	55·5	63·5	51·0	63·0	−·0003	−·0009	− 0·1	− 0·7	−·0004
11 02	20·2	54·9	63·3	51·0	62·9	−·0005	−·0010	− 0·4	− 0·6	−·0006
12 02	21·0	57·8	63·1	51·0	62·8	−·0001	−·0010	+ 0·2	− 1·1	−·0002
13 02	20·1	56·0	63·0	51·0	62·6	−·0005	−·0008	− 0·1	− 0·4	−·0005

1842. Cape of Good Hope. November 10.

CAPE OF GOOD HOPE, 1842. NOVEMBER 10.

MEAN MONTHLY READINGS OF THE MAGNETOMETERS.

Mean Göttingen Time.	Declination.	H. F. at 65°·1.	V. F. at 65°·0.	Mean Göttingen Time.	Declination.	H. F. at 65°·1.	V. F. at 65°·0.
Hours.	Sc. Div.	Sc. Div.	Sc. Div.	Hours.	Sc. Div.	Sc. Div.	Sc. Div.
00	44·0	86·2	28·4	12	44·4	87·7	33·6
01	45·4	86·6	29·0	13	44·0	87·8	33·8
02	45·5	87·0	30·9	14	43·7	88·3	33·7
03	44·8	87·5	32·3	15	43·5	88·3	33·8
04	44·4	87·0	33·7	16	42·9	88·7	34·1
05	44·0	86·9	33·9	17	41·7	89·4	35·4
06	44·1	86·4	33·8	18	39·2	90·4	36·6
07	44·5	86·3	33·4	19	37·7	91·1	36·9
08	44·6	86·4	33·5	20	36·7	90·6	35·1
09	44·7	86·7	33·4	21	37·6	89·5	32·4
10	44·5	86·9	33·6	22	39·7	87·8	30·2
11	44·5	87·2	33·6	23	42·1	86·6	29·3

Coefficients (A), Approximate Absolute Values (B.)

(A)
- Declin. a = 0′·751
- H. F. k = ·00018, q = ·00028
- V. F. k = ·00015, q = ·00005

(B) Approx.
- ψ = 29° 05′
- X = 4·46
- Y = 6·00
- θ = −53° 12′.
- ϕ = 7·50

(a) Observed 4m. before the times specified.

1842.
Cape of Good Hope.

November 10.

OBSERVATIONS OF THE MAGNETOMETERS. The Declination was observed 2m. before, and the V. F. 2m. after the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force
10 01 02	49·9	78·4	63·5	39·4	63·1	−·0019	+·0014	+ 3·4	+ 5·4	+·0002
08	49·5	77·2		40·3		−·0021	+·0016	+ 3·1	+ 6·1	+·0003
14	49·7	77·7		40·3		−·0021	+·0015	+ 3·2	+ 5·9	+·0002
20	50·0	77·9		40·3		−·0020	+·0015	+ 3·5	+ 5·8	+·0002
26	50·1	77·7		40·5		−·0021	+·0015	+ 3·5	+ 5·9	+·0002
32	49·6	78·6		40·5		−·0019	+·0015	+ 3·1	+ 5·6	+·0003
38	49·3	79·0		40·5		−·0018	+·0015	+ 2·9	+ 5·4	+·0003
44	48·7	79·4		40·9		−·0017	+·0015	+ 2·4	+ 5·3	+·0004
50	48·3	80·0		40·9		−·0016	+·0015	+ 2·1	+ 5·1	+·0004
56	48·0	80·9		40·2		−·0015	+·0013	+ 1·9	+ 4·6	+·0003
02 02	48·4	82·2	63·8	39·3	63·6	−·0012	+·0012	+ 2·2	+ 4·0	+·0003
08	48·6	82·9		38·7		−·0011	+·0011	+ 2·4	+ 3·6	+·0003
14	48·7	83·3		38·6		−·0010	+·0010	+ 2·5	+ 3·3	+·0003
20	48·3	83·0		38·8		−·0011	+·0010	+ 2·3	+ 3·5	+·0003
26	47·9	82·7		39·4		−·0011	+·0011	+ 2·0	+ 3·6	+·0003
32	47·5	82·7		39·9		−·0011	+·0012	+ 1·8	+ 3·8	+·0004
38	46·7	82·8		40·0		−·0011	+·0011	+ 1·2	+ 3·6	+·0003
44	46·6	83·0		40·0		−·0011	+·0011	+ 1·2	+ 3·6	+·0003
50	46·2	83·4		40·0		−·0010	+·0011	+ 1·0	+ 3·5	+·0004
56	46·1	83·7		39·6		−·0010	+·0010	+ 0·9	+ 3·3	+·0003
03 02	46·3	84·0	64·2	39·6	63·9	−·0009	+·0010	+ 1·1	+ 3·1	+·0003

1842.
St. Helena.

November 21.

For Mean Monthly Readings, *see* page 147.

ST. HELENA, 1842, NOVEMBER 21.

21 10 02	20·2	50·0	64·5	56·7	64·1	−·0011	+·0025	− 0·4	+ 4·2	−·0006
11 02	20·6	47·7	64·0	56·7	63·9	−·0017	+·0025	− 0·1	+ 4·9	−·0011
08	20·5	47·1		56·7		−·0018	+·0025	− 0·2	+ 4·9	−·0012
14	20·5	47·1		56·9		−·0018	+·0026	− 0·2	+ 5·2	−·0012
20	20·5	46·9		56·8		−·0019	+·0025	− 0·2	+ 5·2	−·0013
26	20·7	46·5		56·8		−·0020	+·0025	− 0·1	+ 5·3	−·0014
32	20·3	45·2		56·8		−·0022	+·0025	− 0·3	+ 5·4	−·0016
38	20·3	44·8		56·8		−·0023	+·0025	− 0·3	+ 5 7	−·0016
44	20·0	45·3		56·6		−·0022	+·0024	− 0·5	+ 5·4	−·0016
50	20·0	46·1		56·6		−·0021	+·0024	− 0·5	+ 5·3	−·0015
56	19·8	47·2		56·9		−·0019	+·0026	− 0·6	+ 5·3	−·0013
12 02	19·8	48·0	64·0	56·9	63·7	−·0017	+·0026	− 0·6	+ 4·9	−·0011
08	19·5	47·2		56·9		−·0019	+·0026	− 0·8	+ 5·3	−·0013
14	19·1	47·1		56·9		−·0019	+·0026	− 1·1	+ 5·3	−·0013
20	18·9	47·1		56·8		−·0019	+·0026	− 1·2	+ 5·3	−·0013
26	18·1	47·1		56·8		−·0019	+·0026	− 1·7	+ 5·3	−·0013
32	17·7	46·I		56·7		−·0021	+·0026	− 2·0	+ 5·4	−·0015
38	17·0	45·7		56·7		−·0022	+·0026	− 2·5	+ 5·7	−·0015
44	17·0	45·2		56·7		−·0022	+·0026	− 2·4	+ 5·7	−·0015
50	17·1	45·5		56·7		−·0022	+·0026	− 2·3	+ 5·7	−·0015
56	17·4	46·0		56·7		−·0021	+·0026	− 2·0	+ 5·4	−·0015
13 02	17·4	46·4	64·0	57·0	63·6	−·0020	+·0028	− 2·0	+ 5·7	−·0013
08	17·2	46·3		56·5		−·0020	+·0025	− 2·2	+ 5·3	−·0014
14	17·4	46·6		56·8		−·0020	+·0028	− 2·0	+ 5·7	−·0013
20	17·5	47·4		57·0		−·0018	+·0029	− 1·9	+ 5·4	−·0012
26	17·1	47·4		56·7		−·0018	+·0027	− 2·2	+ 5·3	−·0012
32	16·3	46·3		56·7		−·0021	+·0028	− 2·7	+ 5·8	−·0014
38	15·4	45·4		56·7		−·0022	+·0028	− 3·3	+ 5·9	−·0015
44	15·6	45·3		56·7		−·0023	+·0028	− 3·2	+ 6·0	−·0016
50	16·3	45·5		56·7		−·0022	+·0028	− 2·7	+ 5·9	−·0015
56	16·2	45·8		56·7		−·0022	+·0028	− 2·7	+ 5·9	−·0015
14 02	16·1	46·8	63·9	56·7	63·6	−·0020	+·0028	− 2·7	+ 5·7	−·0013
08	16·3	48·0		57·0		−·0018	+·0030	− 2·6	+ 5·7	−·0011
14	16·4	48·9		56·9		−·0016	+·0029	− 2·5	+ 5·3	−·0010
20	16·2	48·6		56·9		−·0017	+·0029	− 2·6	+ 5·4	−·0011
26	15·9	49·3		56·9		−·0016	+·0029	− 2·7	+ 5·3	−·0010
32	15·9	48·7		56·9		−·0017	+·0029	− 2·7	+ 5·4	−·0011
38	16·3	49·2		57·4		−·0016	+·0032	− 2·5	+ 5·7	−·0009
44	17·2	49·4		57·4		−·0016	+·0032	− 1·8	+ 5·7	−·0009

1842.
St. Helena.

November 21.

OBSERVATIONS OF THE MAGNETOMETERS. The Declination was observed 2m. before, and the V. F. 2m. after the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
21 14 50	17·5	50·0		57·4		−·0015	+·0032	− 1·5	+ 5·4	−·0009
56	17·3	50·9		57·0		−·0013	+·0029	− 1·6	+ 4·9	−·0007
15 02	16·9	52·0	63·8	57·0	63·6	−·0011	+·0029	− 1·9	+ 4·7	−·0006
08	16·1	52·3		57·0		−·0011	+·0029	− 2·5	+ 4·7	−·0006
14	15·5	52·4		57·0		−·0010	+·0029	− 2·8	+ 4·6	−·0005
20	15·3	53·0		56·9		−·0009	+·0029	− 2·9	+ 4·5	−·0004
26	14·8	53·2		56·8		−·0009	+·0028	− 3·2	+ 4·2	−·0004
32	14·5	53·6		56·8		−·0008	+·0029	− 3·4	+ 4·2	−·0003
38	14·5	54·4		56·8		−·0007	+·0029	− 3·4	+ 4·2	−·0002
44	14·6	59·1		56·9		+·0002	+·0029	− 3·3	+ 3·2	+·0006
50	15·4	60·3		56·9		+·0004	+·0029	− 2·7	+ 2·8	+·0007
56	15·2	61·2		56·9		+·0006	+·0029	− 2·8	+ 2·7	+·0009
16 02	14·5	59·8	63·8	56·9	63·6	+·0003	+·0029	− 3·3	+ 3·1	+·0007
08	14·2	60·3		56·9		+·0004	+·0029	− 3·4	+ 2·8	+·0007
14	14·0	59·2		56·9		+·0002	+·0029	− 3·7	+ 3·2	+·0006
20	13·9	58·0		56·5		·0000	+·0027	− 3·7	+ 3·2	+·0004
26	12·9	55·8		56·5		−·0004	+·0027	− 4·4	+ 3·5	·0000
32	13·0	55·8		56·5		−·0005	+·0027	− 4·2	+ 3·8	−·0001
38	14·0	56·0		56·5		−·0004	+·0027	− 3·4	+ 3·5	·0000
44	14·0	56·0		56·8		−·0004	+·0029	− 3·4	+ 3·9	·0000
50	14·7	56·0		56·8		−·0004	+·0029	− 2·9	+ 3·9	·0000
56	13·8	56·0		56·8		−·0004	+·0029	− 3·4	+ 3·9	·0000
17 02	13·0	56·0	63·7	56·8	63·3	−·0004	+·0029	− 4·1	+ 3·9	·0000
08	12·0	55·6		56·8		−·0005	+·0029	− 4·8	+ 4·0	·0000
14	11·0	55·0		56·8		−·0006	+·0029	− 5·5	+ 4·1	−·0001
20	10·8	54·8		56·8		−·0007	+·0029	− 5·6	+ 4·2	−·0002
26	10·3	54·8		56·5		−·0007	+·0027	− 5·9	+ 4·0	−·0002
32	10·4	54·0		56·5		−·0008	+·0027	− 5·8	+ 4·1	−·0003
38	10·6	53·3		56·5		−·0009	+·0027	− 5·7	+ 4·2	−·0004
44	10·8	53·3		56·5		−·0009	+·0027	− 5·6	+ 4·2	−·0004
50	11·0	53·7		56·5		−·0008	+·0027	− 5·4	+ 4·1	−·0003
56	10·9	53·5		56·5		−·0009	+·0027	− 5·4	+ 4·2	−·0004
18 02	11·0	53·0	63·7	56·5	63·2	−·0010	+·0027	− 5·4	+ 4·2	−·0005
08	10·9	52·1		56·5		−·0011	+·0027	− 5·4	+ 4·5	−·0006
14	11·2	51·9		56·5		−·0012	+·0027	− 5·1	+ 4·6	−·0007
20	11·8	51·0		56·5		−·0014	+·0027	− 4·7	+ 4·8	−·0009
26	12·6	50·1		55·0		−·0016	+·0018	− 4·1	+ 4·0	−·0011
32	12·8	48·9		55·0		−·0018	+·0019	− 4·0	+ 4·2	−·0013
38	13·2	48·1		55·0		−·0020	+·0019	− 3·7	+ 4·6	−·0015
44	—	48·0		55·4		−·0020	+·0021	—	+ 4·8	−·0015
50	13·9	47·5		55·9		−·0021	+·0024	− 3·0	+ 5·3	−·0015
56	14·4	47·0		55·9		−·0022	+·0024	− 2·6	+ 5·4	−·0016
19 02	14·4	47·0	63·6	55·9	63·2	−·0022	+·0024	− 2·6	+ 5·4	−·0016
08	14·2	46·6		58·1		−·0023	+·0037	− 2·6	+ 7·1	−·0015
14	14·2	46·3		58·6		−·0024	+·0040	− 2·5	+ 7·5	−·0015
20	14·1	46·1		58·4		−·0025	+·0039	− 2·5	+ 7·5	−·0016
26	14·1	46·0		59·4		−·0025	+·0045	− 2·3	+ 8·2	−·0015
32	14·1	46·2		60·1		−·0025	+·0049	− 2·2	+ 8·7	−·0015
38	13·8	46·0		60·2		−·0026	+·0049	− 2·2	+ 8·8	−·0016
44	13·7	46·0		60·5		−·0026	+·0051	− 2·2	+ 8·9	−·0016
50	13·5	45·3		60·5		−·0028	+·0051	− 2·2	+ 9·3	−·0017
56	13·2	45·3		59·0		−·0028	+·0042	− 2·3	+ 8·2	−·0018
20 02	13·0	45·6	63·6	57·8	63·2	−·0028	+·0035	− 2·3	+ 7·4	−·0020
08	12·9	46·1		57·5		−·0027	+·0033	− 2·4	+ 7·1	−·0019
14	12·8	46·3		57·3		−·0027	+·0032	− 2·5	+ 6·8	−·0019
20	12·8	46·9		57·2		−·0026	+·0031	− 2·4	+ 6·7	−·0018
26	12·8	47·1		57·4		−·0026	+·0032	− 2·4	+ 6·8	−·0018
32	12·9	47·8		58·8		−·0025	+·0041	− 2·3	+ 7·8	−·0016
38	13·1	47·6		59·8		−·0026	+·0047	− 2·2	+ 8·6	−·0016
44	13·4	47·0		60·3		−·0027	+·0050	− 2·0	+ 8·9	−·0017
50	13·8	46·5		60·1		−·0028	+·0049	− 1·6	+ 8·9	−·0018
56	13·8	46·2		58·4		−·0030	+·0039	− 1·6	+ 8·1	−·0021

1842.
St. Helena.
November 21—22.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 2m. after the times specified.

Mean Göttingen Time.			Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours. $\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$.	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D.	H.	M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
21	21	02	13·7	46·4	63·4	57·3	63·1	−·0029	+·0032	− 1·7	+ 7·2	−·0021
		08	13·5	46·7		57·9		−·0029	+·0036	− 1·9	+ 7·5	−·0020
		14	13·7	46·9		58·5		−·0029	+·0040	− 1·8	+ 8·1	−·0020
		20	13·5	47·1		57·2		−·0029	+·0032	− 2·0	+ 7·2	−·0021
		26	13·5	47·3		57·2		−·0028	+·0032	− 2·1	+ 7·1	−·0020
		32	13·6	47·2		57·1		−·0029	+·0032	− 2·2	+ 7·2	−·0021
		38	13·7	47·3		58·4		−·0029	+·0040	− 2·2	+ 8·1	−·0020
		44	14·0	48·3		59·7		−·0027	+·0047	− 2·0	+ 8·7	−·0017
		50	14·2	49·6		59·7		−·0025	+·0047	− 2·0	+ 8·5	−·0015
		56	14·1	50·1		57·9		−·0024	+·0037	− 2·1	+ 7·2	−·0016
	22	02	14·0	49·9	63·3	57·9	63·0	−·0025	+·0037	− 2·2	+ 7·3	−·0017
		08	13·9	49·8		58·0		−·0025	+·0037	− 2·5	+ 7·3	−·0017
		14	13·9	49·2		58·1		−·0026	+·0038	− 2·5	+ 7·5	−·0017
		20	14·3	49·5		58·0		−·0026	+·0038	− 2·4	+ 7·5	−·0017
		26	14·6	49·9		58·0		−·0025	+·0038	− 2·2	+ 7·4	−·0017
		32	14·8	49·8		58·0		−·0025	+·0038	− 2·2	+ 7·4	−·0017
		38	15·2	49·9		58·0		−·0025	+·0038	− 2·1	+ 7·4	−·0017
		44	15·9	49·9		58·0		−·0025	+·0038	− 1·7	+ 7·4	−·0017
		50	16·1	50·0		58·0		−·0025	+·0038	− 1·7	+ 7·4	−·0017
		56	16·3	50·1		57·8		−·0025	+·0037	− 1·6	+ 7·3	−·0017
	23	02	16·5	50·0	63·7	57·8	63·3	−·0025	+·0037	− 1·6	+ 7·3	−·0017
		08	16·9	50·0		57·8		−·0025	+·0037	− 1·5	+ 7·3	−·0017
		14	16·9	50·0		58·0		−·0025	+·0039	− 1·5	+ 7·5	−·0016
		20	17·4	50·0		57·3		−·0025	+·0035	− 1·3	+ 7·1	−·0017
		26	17·6	50·0		57·3		−·0025	+·0035	− 1·3	+ 7·1	−·0017
		32	18·0	50·0		57·9		−·0025	+·0039	− 1·2	+ 7·5	−·0016
		38	18·1	50·0		57·9		−·0025	+·0039	− 1·2	+ 7·5	−·0016
		44	18·1	50·0		57·5		−·0025	+·0037	− 1·3	+ 7·3	−·0017
		50	18·4	50·0		57·5		−·0025	+·0037	− 1·3	+ 7·3	−·0017
		56	18·6	50·0		57·5		−·0025	+·0038	− 1·2	+ 7·4	−·0017
22	00	02	18·7	50·0	64·0	57·5	63·5	−·0025	+·0038	− 1·3	+ 7·4	−·0017
		08	18·8	50·0		57·5		−·0024	+·0038	− 1·3	+ 7·3	−·0016
		14	19·0	50·9		57·5		−·0023	+·0038	− 1·2	+ 7·2	−·0015
		20	19·5	51·0		57·8		−·0022	+·0040	− 0·9	+ 7·3	−·0014
		26	19·9	51·0		57·3		−·0022	+·0037	− 0·7	+ 6·8	−·0014
		32	19·9	50·9		57·3		−·0022	+·0037	− 0·8	+ 6·8	−·0014
		38	19·2	49·5		57·3		−·0025	+·0037	− 1·3	+ 7·3	−·0017
		44	19·1	49·0		57·3		−·0026	+·0037	− 1·5	+ 7·4	−·0018
		50	19·9	49·1		57·3		−·0025	+·0037	− 1·0	+ 7·3	−·0017
		56	20·8	49·9		57·3		−·0023	+·0037	− 0·4	+ 7·1	−·0015
	01	02	21·2	50·1	64·3	57·7	64·0	−·0023	+·0039	− 0·2	+ 7·3	−·0015
		08	21·0	49·8		57·9		−·0023	+·0040	− 0·4	+ 7·4	−·0015
		14	21·0	49·4		58·0		−·0024	+·0041	− 0·3	+ 7·5	−·0015
		20	20·9	48·8		58·0		−·0025	+·0041	− 0·4	+ 7·8	−·0016
		26	20·3	48·2		57·8		−·0026	+·0040	− 0·8	+ 7·8	−·0017
		32	20·2	48·1		57·9		−·0026	+·0040	− 0·8	+ 7·8	−·0017
		38	20·7	47·8		57·9		−·0026	+·0040	− 0·4	+ 7·8	−·0017
		44	20·9	47·4		57·9		−·0027	+·0040	− 0·3	+ 7·9	−·0018
		50	20·9	46·6		57·7		−·0028	+·0038	− 0·3	+ 7·8	−·0019
		56	20·7	46·4		57·7		−·0028	+·0038	− 0·4	+ 7·8	−·0019
	02	02	20·8	46·2	64·9	57·7	64·4	−·0029	+·0038	− 0·3	+ 7·9	−·0020
		08	20·9	46·1		57·8		−·0029	+·0039	− 0·1	+ 8·0	−·0020
		14	20·7	46·0		57·8		−·0029	+·0039	− 0·3	+ 8·0	−·0020
		20	20·4	45·8		57·9		−·0029	+·0040	− 0·4	+ 8·1	−·0020
		26	20·4	45·5		57·9		−·0029	+·0040	− 0·4	+ 8·1	−·0020
		32	20·2	45·2		57·8		−·0030	+·0038	− 0·5	+ 8·0	−·0021
		38	20·0	45·1		57·8		−·0030	+·0038	− 0·6	+ 8·0	−·0021
		44	19·9	45·1		57·8		−·0029	+·0038	− 0·6	+ 7·9	−·0020
		50	19·8	44·8		57·8		−·0030	+·0038	− 0·7	+ 8·0	−·0021
		56	19·4	44·5		57·9		−·0030	+·0039	− 0·9	+ 8·1	−·0021
	03	02	19·2	44·6	65·2	57·9	64·6	−·0030	+·0039	− 1·1	+ 8·1	−·0021
		08	19·5	44·8		58·4		−·0029	+·0042	− 0·8	+ 8·2	−·0019

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St. Helena.

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OBSERVATIONS OF THE MAGNETOMETERS. The Declination was observed 2m. before, and the V. F. 2m. after the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
22 03 14	19·7	44·8		57·5		−·0029	+·0037	− 0·6	+ 7·8	−·0020
20	19·8	44·8		59·0		−·0029	+·0045	− 0·5	+ 8·7	−·0019
26	19·8	44·8		58·3		−·0029	+·0041	− 0·4	+ 8·2	−·0019
32	19·9	44·4		58·3		−·0029	+·0041	− 0·3	+ 8·2	−·0019
38	19·3	43·9		58·9		−·0030	+·0045	− 0·6	+ 8·8	−·0020
44	19·0	43·2		58·5		−·0031	+·0043	− 0·8	+ 8·7	−·0021
50	18·9	43·1		58·5		−·0031	+·0042	− 0·8	+ 8·6	−·0021
56	18·8	43·4		58·1		−·0030	+·0040	− 0·8	+ 8·2	−·0020
04 02	18·9	43·9	65·6	51·1	65·0	−·0029	+·0034	− 0·7	+ 7·4	−·0021
08	18·9	43·9		58·3		−·0029	+·0040	− 0·6	+ 8·1	−·0020
14	19·0	43·9		58·6		−·0029	+·0042	− 0·5	+ 8·2	−·0019
20	18·9	44·0		58·1		−·0028	+·0038	− 0·5	+ 7·8	−·0019
26	17·5	44·2		58·2		−·0028	+·0039	− 1·4	+ 7·9	−·0019
32	17·3	44·7		58·2		−·0026	+·0038	− 1·5	+ 7·5	−·0017
38	17·0	44·9		58·3		−·0026	+·0039	− 1·6	+ 7·5	−·0017
44	16·8	45·4		57·1		−·0025	+·0031	− 1·7	+ 6·6	−·0017
50	16·8	46·0		57·5		−·0023	+·0034	− 1·6	+ 6·7	−·0015
56	16·9	46·7		57·5		−·0022	+·0033	− 1·5	+ 6·5	−·0015
05 02	17·0	47·0	65·7	58·7	65·1	−·0021	+·0040	− 1·3	+ 7·2	−·0013
08	17·0	47·2		58·4		−·0021	+·0038	− 1·3	+ 6·8	−·0013
14	17·0	47·8		58·4		−·0019	+·0038	− 1·3	+ 6·7	−·0011
20	17·0	48·1		59·8		−·0018	+·0047	− 1·3	+ 7·5	−·0009
26	17·1	48·8		59·4		−·0017	+·0044	− 1·2	+ 7·2	−·0009
32	17·9	49·8		60·5		−·0015	+·0050	− 0·6	+ 7·5	−·0006
38	17·7	49·1		60·1		−·0016	+·0048	− 0·8	+ 7·5	−·0007
44	17·3	49·0		60·1		−·0016	+·0048	− 1·1	+ 7·5	−·0007
50	17·3	49·0		60·1		−·0015	+·0048	− 1·0	+ 7·4	−·0007
56	17·4	49·2		58·8		−·0015	+·0040	− 0·9	+ 6·5	−·0008
06 02	17·7	49·4	65·8	58·8	65·2	−·0014	+·0040	− 0·7	+ 6·4	−·0007
08	17·9	49·3		58·8		−·0014	+·0040	− 0·6	+ 6·4	−·0007
14	18·0	49·3		58·9		−·0014	+·0041	− 0·6	+ 6·5	−·0007
20	18·2	49·8		61·0		−·0013	+·0053	− 0·5	+ 7·8	−·0004
26	18·8	50·1		60·5		−·0012	+·0050	− 0·1	+ 7·3	−·0004
32	18·9	49·9		59·7		−·0012	+·0045	− 0·1	+ 6·7	−·0004
38	18·7	49·6		57·7		−·0013	+·0033	− 0·3	+ 5·4	−·0007
44	18·6	49·7		58·0		−·0012	+·0035	− 0·4	+ 5·4	−·0006
50	18·7	49·8		58·0		−·0012	+·0035	− 0·4	+ 5·4	−·0006
56	18·6	49·8		57·4		−·0012	+·0031	− 0·5	+ 4·9	−·0006
07 02	18·6	49·6	65·7	57·2	65·2	−·0012	+·0030	− 0·6	+ 4.9	−·0006
08	18·3	49·2		56·9		−·0012	+·0028	− 0·8	+ 4·7	−·0007
14	18·2	49·2		56·2		−·0012	+·0023	− 1·0	+ 4·1	−·0007
20	18·2	49·0		56·4		−·0013	+·0025	− 1·0	+ 4·5	−·0008
26	18·2	49·0		56·0		−·0013	+·0022	− 1·1	+ 4·1	−·0008
32	18·3	49·4		56·0		−·0012	+·0022	− 1·1	+ 4·0	−·0007
38	18·5	49·8		56 4		−·0011	+·0024	− 1·0	+ 4·1	−·0006
44	18·7	50·0		57·4		−·0011	+·0029	− 0·9	+ 4·7	−·0006
50	18·7	50·1		59·9		−·0010	+·0044	− 0·9	+ 6·4	−·0003
56	18·9	51·0		61·3		−·0009	+·0052	− 0·8	+ 7·2	−·0001
08 02	18·9	51·0	65·6	60·9	65·3	−·0008	+·0050	− 0·9	+ 6·8	·0000
08	19·0	52·0		60·4		−·0007	+·0047	− 0·8	+ 6·4	·0000
14	19·1	52·2		59·2		−·0006	+·0040	− 0·8	+ 5·4	·0000
20	19·5	52·8		59·2		−·0005	+·0040	− 0·6	+ 5·3	+·0001
26	19·7	52·5		59·2		−·0006	+·0040	− 0·4	+ 5·4	·0000
32	19·8	52·8		59·2		−·0005	+·0040	− 0·4	+ 5·3	+·0001
38	19·8	53·0		59·2		−·0005	+·0040	− 0·4	+ 5·3	+·0001
44	19·9	53·0		59·2		−·0005	+·0040	− 0·4	+ 5·3	+·0001
50	20·0	53·1		59·2		−·0005	+·0040	− 0·3	+ 5·3	+·0001
56	20·0	53·2		59·2		−·0004	+·0040	− 0·4	+ 5·2	+·0002
09 02	20·0	53·1	65·2	59·2	65·1	−·0004	+·0040	− 0·4	+ 5·2	+·0001
32	20·0	53·0		59·8		−·0004	+·0044	− 0·4	+ 5·7	+·0003
10 02	20·0	52·8	65·0	59·5	64·8	−·0004	+·0042	− 0·5	+ 5·4	+·0002
32	19·5	51·8		59·6		−·0007	+·0042	− 0·9	+ 5·8	·0000

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St. Helena.

November 22.

OBSERVATIONS OF THE MAGNETOMETERS. The Declination was observed 2m. before, and the V. F. 2m. after the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta \psi$	$\Delta \theta$	$\frac{\Delta \phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
22 11 02	19·9	53·4	65·0	59·3	64·6	−·0003	+·0040	− 0·6	+ 4·9	+·0003
32	19·9	53·9		59·6		−·0004	+·0042	− 0·6	+ 5·4	+·0002
12 02	20·0	54·5	64·5	59·6	64·3	−·0003	+·0042	− 0·5	+ 5·3	+·0003
13 02	19·9	54·7	64·2	59·2	64·0	−·0004	+·0041	− 0·3	+ 5 3	+·0002
14 02	19·9	56·1	64·0	59·3	63·9	−·0002	+·0044	− 0·1	+ 5·4	+·0004
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21 12 02	72·8	62·8	56·2	49·1	55·5	−·0008	−·0001	− 0·6	+ 0·8	−·0002
13 02	76·6	43·9	57·1	56·6	56·2	−·0026	+·0001	− 0·2	+ 2·9	−·0002
14 02	81·4	42·0	58·0	46·8	57·0	−·0026	−·0002	0·0	+ 2·6	−·0005
15 02	87·3	43·1	59·6	38·8	58·3	−·0027	−·0002	+ 1·3	+ 2·7	−·0005
16 02	95·0	37·5	61·2	61·1	59·6	−·0035	+·0009	+ 4·5	+ 4·7	+·0004
08	97·7	45·3		60·8		−·0026	+·0009	+ 6·3	+ 3·8	+·0005
14	100·6	44·7		62·7		−·0027	+·0010	+ 8·2	+ 4·0	+·0006
20	102·4	48·2		58·8		−·0023	+·0008	+ 9·4	+ 3·3	+·0005
26	102·8	45·7		58·6		−·0026	+·0008	+ 9·6	+ 3·7	+·0004
32	101·8	45·5		55·6		−·0026	+·0007	+ 8·8	+ 3·6	+·0003
38	98·4	47·8		55·4		−·0024	+·0007	+ 6·3	+ 3·3	+·0004
44	99·8	45·6		56·9		−·0027	+·0008	+ 7·2	+ 3·8	+·0004
50	99·7	46·9		57·3		−·0025	+·0009	+ 7·0	+ 3·7	+·0005
56	100·4	49·8		56·8		−·0022	+·0009	+ 7·4	+ 3·3	+·0006
17 02	100·0	52·3	62·6	57·8	60·3	−·0019	+·0009	+ 7·0	+ 3·0	+·0006
08	101·9	53·2		55·7		−·0018	+·0008	+ 8·5	+ 2·8	+·0005
14	102·3	50·5		61·6		−·0021	+·0011	+ 8·9	+ 3·5	+·0008
20	106·2	50·9		63·5		−·0020	+·0012	+11·8	+ 3·5	+·0009
26	107·4	54·4		62·8		−·0016	+·0012	+12·7	+ 3·0	+·0009
32	107·0	53·0		61·3		−·0017	+·0011	+12·6	+ 3·0	+·0008
38	104·5	51·8		61·2		−·0019	+·0012	+11·0	+ 3·3	+·0009
44	101·8	59·2		59·4		−·0010	+·0011	+ 9·1	+ 2·3	+·0009
50	102·5	61·6		56·7		−·0006	+·0010	+ 9·7	+ 1·7	+·0008
56	101·4	63·6		53·7		−·0004	+·0009	+ 9·0	+ 1·4	+·0008
18 02	99·7	63·0	64·0	52·7	61·0	−·0004	+·0009	+ 7·9	+ 1·4	+·0008
08	99·3	63·9		52·6		−·0003	+·0009	+ 7·8	+ 1·3	+·0008
14	99·8	66·4		53·7		·0000	+·0010	+ 8·3	+ 1·1	+·0009
20	101·5	60·2		55·1		−·0007	+·0011	+ 9·6	+ 1·9	+·0009
26	97·3	56·9		55·1		−·0011	+·0011	+ 6·8	+ 2·4	+·0009
32	97·0	48·9		60·7		−·0021	+·0013	+ 6·8	+ 3·7	+·0009
38	99·1	47·7		66·3		−·0022	+·0016	+ 8·4	+ 4·1	+·0012
44	—	49·6		69·4		−·0019	+·0017	—	+ 3·9	+·0013
50	99·5	50·7		63·2		−·0018	+·0015	+ 8·9	+ 3·6	+·0011
56	95·5	55·6		61·1		−·0012	+·0014	+ 6·3	+ 2·8	+·0011
19 02	93·6	56·2	64·8	55·9	62·0	−·0011	+·0013	+ 5·1	+ 2·6	+·0010
08	90·9	57·6		53·7		−·0009	+·0012	+ 3·2	+ 2·3	+·0010
14	89·7	57·5		51·0		−·0009	+·0011	+ 2·5	+ 2·2	+·0009
20	87·6	61·2		49·9		−·0004	+·0011	+ 1·1	+ 1·6	+·0009
26	87·8	63·0		47·0		−·0002	+·0010	+ 1·4	+ 1·3	+·0009
32	88·5	64·0		45·4		·0000	+·0009	+ 2·0	+ 1·0	+·0008
38	89·4	64·8		45·2		+·0001	+·0009	+ 2·7	+ 0·9	+·0008
44	91·4	63·5		46·8		·0000	+·0010	+ 4·4	+ 1·1	+·0009
50	92·5	60·3		49·6		−·0004	+·0011	+ 5·3	+ 1·6	+·0009
56	94·8	55·7		53·2		−·0009	+·0013	+ 7·0	+ 2·4	+·0011
20 02	95·2	46·1	65·6	56·0	63·0	−·0020	+·0014	+ 7·4	+ 3·7	+·0010
08	89·7	47·1		52·4		−·0019	+·0012	+ 3·7	+ 3·3	+·0009
14	82·8	55·1		52·0		−·0009	+·0012	− 1·1	+ 2·3	+·0010
20	84·2	60·0		48·8		−·0003	+·0011	+ 0·1	+ 1·5	+·0010
26	85·9	62·1		47·2		·0000	+·0011	+ 1·4	+ 1·2	+·0010
32	88·0	58·7		46·5		−·0004	+·0011	+ 3·0	+ 1·6	+·0009
38	88·1	54·7		48·5		−·0009	+·0011	+ 3·2	+ 2·2	+·0009
44	89·1	49·8		51·6		−·0014	+·0013	+ 4·2	+ 2·9	+·0010

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For Mean Monthly Readings, *see* page 144.

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Van Diemen Island.

November 21—22.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 2m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours. $\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
21 20 50	88·4	48·0		54·1		−·0016	+·0013	+ 3·9	+ 3·1	+·0010
56	89·0	45·8		54·7		−·0019	+·0014	+ 4·4	+ 3·6	+·0010
21 02	87·6	44·2	66·0	53·7	63·2	−·0020	+·0013	+ 3·6	+ 3·6	+·0009
08	85·2	47·2		51·8		−·0017	+·0013	+ 1·9	+ 3·2	+·0010
14	85·1	48·6		49·5		−·0015	+·0012	+ 1·9	+ 2·9	+·0009
20	85·8	49·0		47·1		−·0015	+·0011	+ 2·5	+ 2·8	+·0008
26	85·8	48·4		45·6		−·0015	+·0011	+ 2·5	+ 2·8	+·0008
32	85·1	48·0		42·2		−·0016	+·0010	+ 2·2	+ 2·8	+·0007
22 02	86·0	52·9	66·4	31·9	63·5	−·0010	+·0006	+ 3·2	+ 1·7	+·0004
20	86·5	—		—		—	—	+ 3·8	—	—
38	83·4 (a)	—		—		—	—	+ 1·7	—	—
23 02	82·1	47·8	66·2	32·9	63·5	−·0015	+·0007	+ 1·1	+ 2·4	+·0005
22 00 02	79·7	51·2	66·0	29·3	63·5	−·0011	+·0007	− 0·4	+ 1·9	+·0005
01 02	80·1	53·3	65·4	33·0	63·2	−·0009	+·0009	+ 1·3	+ 1·9	+·0007
02 02	74·0	53·4	64·8	29·5	63·0	−·0010	+·0007	− 3·2	+ 1·8	+·0005
03 02	72·4	52·6	64·7	21·2	62·8	−·0011	+·0005	− 4·6	+ 1·7	+·0003
04 02	73·0	55·5	64·6	19·6	62·6	−·0008	+·0002	− 4·7	+ 1·1	+·0001

1842.
Toronto.

November 21—22.

For Mean Monthly Readings, *see* page 145.

TORONTO, 1842. NOVEMBER 21—22.

21 16 02	149·3	417·8	41·8	86·4	42·0	−·0048	+·0003	+13·8	+ 4·3	·0000
17 02	144·7	411·4	41·6	75·7	41·8	−·0054	−·0008	+10·6	+ 3·9	−·0011
18 02	143·5	402·9	41·6	67·4	41·8	−·0058	−·0015	+10·2	+ 3·6	−·0018
19 02	134·0	402·8	41·2	69·2	41·5	−·0060	−·0013	+ 4·4	+ 4·0	−·0016
20 02	109·7	—	41·3	—	41·6	—	—	−12·7	—	—
26	128·7	355·5		47·3		−·0097	−·0033	+ 0·6	+ 5·4	−·0037
32	142·5	378·7		47·2		−·0080	−·0033	+10·5	+ 4·0	−·0036
38	147·0	405·7		52·4		−·0060	−·0028	+13·7	+ 2·7	−·0030
44	144·7	441·8		56·4		−·0033	−·0024	+11·9	+ 0·8	−·0025
50	141·4	454·1		59·8		−·0024	−·0021	+ 9·5	+ 0·2	−·0021
56	136·4	464·2		62·3		−·0016	−·0019	+ 5·9	− 0·2	−·0019
21 02	127·1	469·6	41·6	62·4	42·1	−·0012	−·0019	− 0·9	− 0·6	−·0019
14	119·0	453·6		66·6		−·0024	−·0015	− 6·9	+ 0·8	−·0016
20	118·0	450·2		67·3		−·0027	−·0014	− 7·6	+ 1·1	−·0015
26	119·6	442·8		69·5		−·0032	−·0012	− 6·5	+ 1·7	−·0013
32	121·3	453 3		72·3		−·0024	−·0009	− 5·3	+ 1·3	−·0010
38	119·8	457·8		75·3		−·0021	−·0006	− 6·5	+ 1·3	−·0007
44	116·8	464·9		75·0		−·0016	−·0007	− 8·6	+ 0·8	−·0008
50	110·0	459·1		72·3		−·0020	−·0009	−13·6	+ 0·9	−·0010
56	109·9	455·9		70·2		−·0022	−·0011	−13·7	+ 0·9	−·0012
22 02	113·8	457·7	41·8	70·2	42·3	−·0021	−·0011	−10·9	+ 0·9	−·0012
23 02	123·3	474·4	42·0	74·2	42·0	−·0009	−·0008	− 5·0	+ 0·1	−·0008
22 00 02	122·1	478·4	41·4	77·7	41·9	−·0009	−·0005	− 4·9	+ 0·3	−·0005
01 02	124·9	481·2	41·0	80·5	41·6	−·0005	−·0002	− 3·3	+ 0·2	−·0002

1842.
Cape of Good Hope.

November 21.

For Mean Monthly Readings *see* page 148.

CAPE OF GOOD HOPE, 1842. NOVEMBER 21—22.

21 22 02	36·7	80·0	63·7	28·4	63·7	−·0018	−·0003	− 2·3	+ 2·5	−·0008
38	—	78·1		28·9		−·0014	−·0002	—	+ 2·0	−·0006
44	38·9	77·8		28·8		−·0019	−·0002	− 1·9	+ 2·8	−·0008
50	39·0	77·5		28·8		−·0019	−·0001	− 2·0	+ 3·0	−·0007
56	39·1	77·5		28·8		−·0019	−·0001	− 2·1	+ 3·0	−·0007
23 02	39·2	76·5	64·5	29·0	64·1	−·0020	−·0001	− 2·2	+ 3·1	−·0008
08	39·2	76·0		29·0		−·0021	−·0001	− 2·3	+ 3·3	−·0008
14	39·8	75·7		29·4		−·0021	·0000	− 2·0	+ 3·5	−·0007
20	40·0	75·4		29·4		−·0021	+·0001	− 2·0	+ 3·6	−·0007

(a) Observed at 37 m.

1842.
Cape of Good Hope.

November 21—22.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 2m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
21 23 26	40·2	75·0		29·4		−·0022	+·0001	− 2·0	+ 3·8	−·0007
32	40·6	75·0		29·4		−·0022	+·0001	− 1·9	+ 3·8	−·0007
38	40·7	74·6		29·5		−·0022	+·0001	− 1·9	+ 3·8	−·0007
44	40·8	74·7		29·5		−·0022	+·0001	− 2·0	+ 3·8	−·0007
50	41·0	74·6		29·2		−·0022	+·0001	− 2·0	+ 3·8	−·0007
56	41·1	74·6		29·2		−·0022	+·0001	− 2·0	+ 3·8	−·0007
22 00 02	41·1	74·5	64·9	29·4	64·6	−·0022	+·0001	− 2·2	+ 3·8	−·0007
08	41·1	74·8		29·2		−·0021	+·0001	− 2·3	+ 3·6	−·0007
14	41·8	75·2		28·3		−·0021	−·0001	− 1·9	+ 3·3	−·0008
20	42·3	75·6		27·7		−·0020	−·0002	− 1·6	+ 3·0	−·0008
26	42·8	75·8		27·7		−·0020	−·0002	− 1·4	+ 3·0	−·0008
32	42·4	75·0		28·5		−·0022	−·0001	− 1·7	+ 3·5	−·0008
38	41·9	73 8		30·0		−·0024	+·0002	− 2·2	+ 4·3	−·0007
44	41·5	73·4		30·7		−·0025	+·0003	− 2·6	+ 4·6	−·0007
50	42·1	74·0		29·8		−·0024	+·0001	− 2·3	+ 4·1	−·0008
56	43·0	74·8		28·8		−·0023	·0000	− 1·7	+ 3·8	−·0008
01 02	44·0	75·0	65·6	28·2	65·0	−·0019	−·0002	− 1·1	+ 2·8	−·0008
08	44·2	74·2		29·1		−·0021	−·0001	− 0·9	+ 3·3	−·0008
14	44·2	74·0		29·4		−·0021	·0000	− 0·9	+ 3·5	−·0007
20	44·5	73·6		30·3		−·0022	+·0001	− 0·7	+ 3·8	−·0007
26	44·0	72·2		31·7		−·0024	+·0003	− 1·1	+ 4·4	−·0007
32	43·8	71·6		32·5		−·0025	+·0004	− 1·3	+ 4·8	−·0006
38	44·3	71·7		32·5		−·0025	+·0004	− 0·9	+ 4·8	−·0006
44	44·9	71·7		32·5		−·0025	+·0003	− 0·5	+ 4·6	−·0007
50	44·9	70·7		33·1		−·0027	+·0004	− 0·5	+ 5·1	−·0007
56	44·8	70·3		33·4		−·0027	+·0004	− 0·5	+ 5·1	−·0007
02 02	45·0	70·3	66·1	33·7	65·5	−·0027	+·0004	− 0·4	+ 5·1	−·0007
08	45·0	70·3		33·8		−·0027	+·0004	− 0·3	+ 5·1	−·0007
14	44·9	70·2		34·4		−·0027	+·0005	− 0·4	+ 5·3	−·0006
20	44·6	69·8		34·9		−·0028	+·0005	− 0·5	+ 5·4	−·0007
26	44·5	69·2		35·1		−·0028	+·0006	− 0·5	+ 5·6	−·0006
32	44·4	69·5		35·8		−·0029	+·0007	− 0·5	+ 5·9	−·0006
38	44·0	69·5		36·0		−·0029	+·0007	− 0·8	+ 5·9	− 0006
44	44·0	69·4		36·3		−·0029	+·0007	− 0·8	+ 5·9	−·0006
50	43·7	69·0		36·9		−·0030	+·0008	− 0·9	+ 6·3	−·0006
56	43·3	69·0		37·3		−·0030	+·0008	− 1·2	+ 6·3	−·0006
03 02	43·0	69·4	66·4	37·3	65·9	−·0029	+·0008	− 1·4	+ 6·1	−·0005
08	43·0	69·7		36·6		−·0028	+·0007	− 1·4	+ 5·8	−·0006
14	43·1	69·9		36·3		−·0023	+·0006	− 1·2	+ 5·6	−·0006
20	43·3	69·7		36·3		−·0028	+·0006	− 1·1	+ 5·6	−·0006
26	43·5	69·9		36·1		−·0028	+·0005	− 0·8	+ 5·4	−·0007
32	43·5	69·6		36·1		−·0028	+·0005	− 0·8	+ 5·4	−·0007
38	43·4	68·9		36·9		−·0029	+·0006	− 0·9	+ 5·8	−·0007
44	43·0	68·4		37·2		−·0030	+·0006	− 1·1	+ 5·9	−·0007
50	43·1	68·3		37·5		−·0030	+·0006	− 1·1	+ 5·9	−·0007
56	42·7	68·6		37·6		−·0029	+·0006	− 1·3	+ 5·8	−·0007
04 02	42·5	69·4	66·5	37·4	65·9	−·0028	+·0006	− 1·4	+ 5·6	−·0006
08	42·9	69·2		37·4		−·0028	+·0006	− 1·1	+ 5·6	−·0006
14	42·1	69·2		37·7		−·0028	+·0006	− 1·7	+ 5·6	−·0006
20	41·9	69·3		37·6		−·0028	+·0006	− 1·8	+ 5·6	−·0006
26	41·8	69·7		37·2		−·0027	+·0006	− 1·8	+ 5·4	−·0006
32	41·5	70·0		37·2		−·0027	+·0006	− 2·0	+ 5·4	−·0006
38	41·3	70·7		36·9		−·0025	+·0005	− 2·2	+ 4·9	−·0006
44	41·0	71·4		36·4		−·0024	+·0004	− 2·3	+ 4·6	−·0006
50	40·6	72·5		35·7		−·0024	+·0003	− 2·6	+ 4·4	−·0007
56	40·8	73·3		35·0		−·0021	+·0002	− 2·4	+ 3·8	−·0006
05 02	40·9	73·9	66·5	34·0	66·0	−·0019	+·0001	− 2·3	+ 3·3	−·0006
08	41·0	74·3		33·2		−·0019	−·0001	− 2·3	+ 3·0	−·0007
14	41·0	74·9		32·7		−·0018	−·0001	− 2·3	+ 2·8	−·0007
20	41·0	75·4		32·3		−·0016	−·0002	− 2·3	+ 2·3	−·0007
26	41·1	76·2		31·5		−·0015	−·0003	− 2·2	+ 2·0	−·0007
32	41·6	77·3		30·3		−·0013	−·0005	− 1·9	+ 1·3	−·0008

1842. Cape of Good Hope. — November 22.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 2m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. ○	Sc. Div.	Therm. ○	Parts of Hor. Force.	Parts of Vert. Force.	′	″	Parts of Total Force.
22 05 38	41·8	76·9		30·1		−·0014	−·0005	− 1·7	+ 1·5	−·0008
44	41·4	76·3		30·4		−·0014	−·0005	− 2·0	+ 1·5	−·0008
50	41·2	76·5		30·2		−·0014	−·0005	− 2·2	+ 1·5	−·0008
56	41·1	76·9		30·3		−·0013	−·0005	− 2·3	+ 1·3	−·0008
06 02	41·0	77·2	66·5	30·0	66·2	−·0013	−·0005	− 2·3	+ 1·3	−·0008
08	41·0	77·2		29·5		−·0013	−·0006	− 2·3	+ 1·2	−·0008
14	41·2	77·2		29·5		−·0013	−·0006	− 2·3	+ 1·2	−·0008
20	41·6	77·6		29·2		−·0012	−·0006	− 2·0	+ 1·0	−·0008
26	41·8	78·2		28·9		−·0011	−·0007	− 1·9	+ 0·7	−·0008
32	42·0	77·8		28·1		−·0011	−·0008	− 1·7	+ 0·5	−·0009
38	42·2	77·0		28·3		−·0013	−·0007	− 1·6	+ 1·0	−·0009
44	42·3	77·1		29·0		−·0013	−·0006	− 1·6	+ 1·2	−·0008
50	42·5	77·2		28·9		−·0012	−·0006	− 1·4	+ 1·0	−·0008
56	42·7	77·0		29·1		−·0013	−·0006	− 1·4	+ 1·2	−·0008
07 02	42·6	77·0	66·5	29·1	66·3	−·0013	−·0006	− 1·4	+ 1·2	−·0008
08 02	43·0	78·2	65·9	29·9	65·8	−·0012	−·0005	− 1·2	+ 1·2	−·0007
09 02	44·0	82·0	65·5	27·8	65·4	−·0007	−·0008	− 0·5	− 0·2	−·0008
10 02	43·2	82·9	64·8	30·7	64·9	−·0008	−·0004	− 1·0	+ 0·7	−·0005
11 02	43·0	84·0	64·7	31·6	64·8	−·0007	−·0003	− 1·1	+ 0·7	−·0004
12 02	43·0	86·6	64·6	31·7	64·5	−·0003	−·0003	− 1·4	0·0	−·0003

1842. Van Diemen Island. — December 9.

VAN DIEMEN ISLAND, 1842. DECEMBER 9.

MEAN MONTHLY READINGS OF THE MAGNETOMETERS.

Mean Göttingen Time.	Declination.	H. F. at 61°·5.	V. F. at 60°·1.	Mean Göttingen Time.	Declination.	H. F. at 61°·5.	V. F. at 60°·1.
Hours.	Sc. Div.	Sc. Div.	Sc. Div.	Hours.	Sc. Div.	Sc. Div.	Sc. Div.
00	81·5	75·6	32·8	12	74·6	67·1	27·1
01	80·9	75·0	32·0	13	76·6	66·0	29·9
02	80·4	73·9	32·6	14	80·4	65·5	33·8
03	79·6	73·4	28·7	15	84·7	66·9	35·5
04	80·0	73·1	30·9	16	87·4	70·5	37·0
05	80·6	73·3	28·8	17	88·5	73·1	36·0
06	80·3	72·0	27·7	18	88·2	75·6	35·1
07	80·4	72·1	26·8	19	87·2	77·2	34·3
08	79·3	71·8	25·7	20	85·5	76·7	36·3
09	77·5	71·6	24·6	21	83·7	75·2	35·9
10	75·5	70·6	23·7	22	82·7	75·2	35·9
11	74·4	69·8	25·4	23	82·4	75·7	34·6

Coefficients (A), Approximate Absolute Values (B.)

(A) Declin. $a = 0'\cdot71$

H. F. $k = \cdot000120$, $q = \cdot000234$

V. F. $k = \cdot000038$, $q = \cdot00021$

(B) Approx. $\psi = -9°55'$, $X = 4\cdot51$, $Y = 12\cdot86$, $\theta = -70°37'$, $\phi = 13\cdot62$

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 2m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. ○	Sc. Div.	Therm. ○	Parts of Hor. Force.	Parts of Vert. Force.	′	″	Parts of Total Force.
9 01 02	76·0	84·3	61·0	21·8	59·5	+·0010	−·0005	− 3·4	− 1·6	−·0003
02 02	76·7	76·5	60·5	25·3	59·0	+·0001	−·0005	− 2·6	− 0·7	−·0004
03 02	76·2	75·4	60·2	27·5	58·9	−·0001	−·0003	− 2·4	− 0·2	−·0003
04 02	75·6	74·1	60·0	27·8	58·8	−·0002	−·0004	− 3·1	− 0·2	−·0004
05 02	76·0	78·4	59·6	23·3	58·4	+·0002	−·0006	− 3·2	− 0·9	−·0005
06 02	81·9	77·1	50·2	27·1	58·0	+·0001	−·0005	+ 1·1	− 0·7	−·0004
07 02	89·3	78·8	59·3	21·9	58·3	+·0003	−·0006	+ 6·3	− 1·0	−·0005
14	86·4	75·4		22·5		−·0001	−·0005	+ 4·4	− 0·4	−·0005
20	85·8	69·7		25·6		−·0008	−·0004	+ 4·1	+ 0·4	−·0004

1842.
Van Diemen Island.

December 9.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 2m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
						$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta \psi$	$\Delta \theta$	$\frac{\Delta \phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
9 07 26	87·0	65·8		31·7		−·0013	−·0002	+ 5·0	+ 1·2	−·0003
32	88·4	65·8		32·3		−·0012	−·0001	+ 6·1	+ 1·2	−·0002
38	87·8	66·7		32·3		−·0011	−·0001	+ 5·8	+ 1·1	−·0002
44	86·5	66·9		30·4		−·0011	−·0002	+ 4·9	+ 1·0	−·0003
50	86·7	67·0		30·3		−·0011	−·0002	+ 5·1	+ 1·0	−·0003
56	88·3	69·2		23·9		−·0008	−·0004	+ 6·3	+ 0·4	−·0004
08 02	87·9	71·6	59·4	23·9	58·6	−·0005	−·0004	+ 6·1	+ 0·1	−·0004
08	86·4	72·5		18·1		−·0004	−·0006	+ 5·2	− 0·2	−·0006
14	83·7	71·0		12·5		−·0006	−·0008	+ 3·4	− 0·2	−·0008
20	83·2	71·0		13·2		−·0006	−·0008	+ 3·1	− 0·2	−·0008
26	82·0	72·8		10·8		−·0004	−·0009	+ 2·4	− 0·5	−·0008
32	81·0	71·3		10·1		−·0005	−·0009	+ 1·8	− 0·4	−·0009
38	79·0	69·5		9·3		−·0008	−·0009	+ 0·6	− 0·1	−·0009
44	78·1	66·1		12·1		−·0012	−·0008	+ 0·1	+ 0·4	−·0008
50	78·1	63·9		14·4		−·0014	−·0007	+ 0·1	+ 0·8	−·0008
56	77·4	61·0		25·6		−·0018	−·0003	− 0·2	+ 1·6	−·0005
09 02	81·2	57·6	59·4	28·9	58·7	−·0022	−·0001	+ 2·6	+ 2·3	−·0003
08	83·2	60·7		28·9		−·0018	−·0001	+ 4·2	+ 1·8	−·0003
14	83·6	62·2		25·5		−·0016	−·0003	+ 4·7	+ 1·4	−·0004
20	82·6	61·9		20·7		−·0016	−·0004	+ 4·1	+ 1·3	−·0005
26	80·0	60·0		19·7		−·0018	−·0005	+ 2·3	+ 1·4	−·0006
32	78·7	58·9		19·6		−·0020	−·0005	+ 1·5	+ 1·6	−·0007
38	80·7	62·6		21·4		−·0015	−·0004	+ 3·1	+ 1·2	−·0005
44	81·7	60·1		19·2		−·0018	−·0005	+ 4·0	+ 1·4	−·0006
50	79·8	57·0		19·6		−·0022	−·0004	+ 2·7	+ 1·9	−·0006
56	77·7	57·1		22·7		−·0021	−·0003	+ 1·4	+ 1·9	−·0005
10 02	78·7	54·9	59·4	16·9	58·8	−·0024	−·0005	+ 2·2	+ 2·0	−·0007
08	78·9	57·5		22·4		−·0021	−·0003	+ 2·5	+ 1·9	−·0005
14	80·5	58·3		20·2		−·0019	−·0004	+ 3·7	+ 1·6	−·0006
20	80·6	58·7		20·9		−·0019	−·0004	+ 3·9	+ 1·6	−·0006
26	80·7	58·0		20·3		−·0020	−·0004	+ 4·0	+ 1·7	−·0006
32	78·9	52·8		20·0		−·0026	−·0004	+ 2·8	+ 2·4	−·0006
38	77·4	53·2		22·9		−·0025	−·0003	+ 1·8	+ 2·4	−·0005
44	76·7	49·3		27·2		−·0030	−·0002	+ 1·4	+ 3·0	−·0005
50	75·0	43·5		33·4		−·0037	+·0001	+ 0·3	+ 3·9	−·0005
56	73·6	54·5		25·7		−·0023	−·0002	− 0·6	+ 2·3	−·0004
11 02	81·6	59·0	59·6	33·3	59·0	−·0018	+·0001	+ 5·1	+ 2·0	−·0001
08	81·1	62·0		22·3		−·0014	−·0004	+ 4·8	+ 1·1	−·0005
14	81·1	62·1		18·4		−·0013	−·0005	+ 4·8	+ 0·9	−·0006
20	78·9	61·6		15·8		−·0013	−·0006	+ 3·1	+ 0·8	−·0007
26	77·2	60·0		14·2		−·0015	−·0007	+ 1·9	+ 0·9	−·0008
32	76·8	61·0		14·8		−·0013	−·0007	+ 1·6	+ 0·7	−·0008
38	76·8	61·0		13·8		−·0013	−·0007	+ 1·6	+ 0·7	−·0008
44	77·0	61·0		14·8		−·0013	−·0007	+ 1·8	+ 0·7	−·0008
50	76·9	59·8		15·8		−·0014	−·0006	+ 1·6	+ 0·9	−·0007
56	77·8	60·4		15·0		−·0013	−·0007	+ 2·2	+ 0·7	−·0008
12 02	76·8	58·2	59·8	15·0	59·2	−·0015	−·0007	+ 1·5	+ 0·9	−·0008
13 02	76·8	57·5	60·9	14·9	60·0	−·0012	−·0006	+ 0·1	+ 0·7	−·0007
14 02	79·0	55·9	62·0	19·1	60·8	−·0010	−·0004	− 1·0	+ 0·7	−·0005
15 02	83·2	54·7	63·2	23·0	61·6	−·0011	−·0002	− 1·1	+ 1·0	−·0003
16 02	86·1	60·3	64·5	20·4	62·5	−·0005	−·0001	− 0·9	+ 0·4	−·0001
17 02	87·1	61·5	65·0	20·4	62·7	−·0006	−·0001	− 1·0	+ 0·5	−·0002

1842.
St. Helena.

December 9.

ST. HELENA, 1842. DECEMBER 9.

MEAN MONTHLY READINGS OF THE MAGNETOMETERS.

Mean Göttingen Time.	Declination.	H. F. at 64°·8.	V. F. at 64°·3.	Mean Göttingen Time.	Declination.	H. F. at 64°·8.	V. F. at 64°·3.
Hours.	Sc. Div.	Sc. Div.	Sc. Div.	Hours.	Sc. Div.	Sc. Div.	Sc. Div.
00	19·5	64·3	51·7	12	19·6	57·6	51·9
01	19·7	64·5	51·5	13	19·3	57·7	51·7
02	19·5	64·2	51·8	14	18·7	57·8	51·7
03	18·4	63·6	51·8	15	18·3	57·8	51·7
04	17·5	62·4	51·9	16	18·0	57·9	51·6
05	17·7	61·3	52·0	17	17·6	57·8	51·6
06	18·2	60·3	52·1	18	17·3	58·1	51·6
07	18·4	58·8	52·0	19	16·9	58·9	51·8
08	18·9	57·7	52·1	20	15·7	60·1	51·5
09	19·2	57·4	52·0	21	15·9	61·4	51·7
10	19·6	57·4	51·9	22	17·0	62·7	51·4
11	19·7	57·3	52·1	23	18·2	63·6	51·4

Coefficients (A), Approximate Absolute Values (B.).

(A) Declin. $a = 0'·711$
H. F. $k = ·00019$, $q = ·00028$
V. F. $k = ·0007$, $q = ·00002$

(B) Approx. $\psi = 23°\,10'$, $X = 5·57$, $Y = 2·21$, $\theta = -21°\,37'$, $\phi = 6·00$

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 2m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
9 03 02	18·8	63·6	63·9	48·1	63·4	−·0003	−·0026	+ 0·3	− 2·7	−·0006
04 02	17·0	59·8	64·1	48·1	63·7	−·0007	−·0027	− 0·4	− 2·4	−·0010
05 02	17·3	56·1	64·7	47·9	64·0	−·0010	−·0029	− 0·3	− 2·2	−·0013
50	17·0	53·1		47·9		−·0014	−·0029	− 0·8	− 1·8	−·0016
56	17·2	53·2		47·9		−·0014	−·0029	− 0·7	− 1·8	−·0016
06 02	17·5	53·1	64·8	48·1	64·3	−·0014	−·0028	− 0·5	− 1·7	−·0016
08	17·8	52·3		48·1		−·0015	−·0028	− 0·3	− 1·4	−·0017
14	17·8	52·0		48·1		−·0015	−·0028	− 0·3	− 1·4	−·0017
20	17·5	51·0		48·1		−·0017	−·0028	− 0·6	− 1·3	−·0018
26	17·2	50·0		48·1		−·0018	−·0028	− 0·8	− 1·2	−·0019
32	17·1	49·2		47·9		−·0019	−·0029	− 0·8	− 1·2	−·0020
38	17·0	48·9		47·8		−·0020	−·0029	− 0·9	− 0·9	−·0021
44	16·9	48·0		47·8		−·0021	−·0029	− 1·0	− 0·9	−·0022
50	16·6	47·1		47·8		−·0023	−·0029	+ 1·3	− 0·7	−·0024
56	16·5	46·0		47·8		−·0024	−·0029	− 1·3	− 0·6	−·0025
07 02	16·4	45·0	64·9	47·8	64·4	−·0026	−·0029	− 1·4	− 0·2	−·0026
08	16·3	44·9		47·8		−·0026	−·0029	− 1·5	− 0·2	−·0026
14	16·8	45·0		47·9		−·0026	−·0029	− 1·2	− 0·2	−·0026
20	16·5	45·1		47·9		−·0025	−·0029	− 1·5	− 0·5	−·0026
26	16·9	46·0		47·9		−·0023	−·0029	− 1·2	− 0·7	−·0024
32	17·1	46·0		47·9		−·0023	−·0029	− 1·1	− 0·7	−·0024
38	17·7	45·9		47·7		−·0023	−·0031	− 0·7	− 0·9	−·0024
44	17·9	45·1		47·5		−·0025	−·0032	− 0·6	− 0·8	−·0026
50	17·9	44·6		47·5		−·0025	−·0032	− 0·6	− 0·8	−·0026
56	17·9	44·8		47·5		−·0025	−·0032	− 0·7	− 0·8	−·0026
08 02	17·9	44·1	64·8	48·1	64·4	−·0026	−·0028	− 0·7	− 0·2	−·0026
08	17·9	43·9		48·1		−·0026	−·0028	− 0·7	− 0·2	−·0026
14	17·7	43·2		48·1		−·0027	−·0028	− 0·9	− 0·1	−·0027
20	17·4	43·2		48·1		−·0027	−·0028	− 1·1	− 0·1	−·0027
26	17·7	43·2		48·1		−·0027	−·0028	− 0·9	− 0·1	−·0027
32	17·2	43·4		47·8		−·0027	−·0029	− 1·3	− 0·2	−·0027
38	17·0	42·6		47·8		−·0028	−·0029	− 1·5	− 0·1	−·0028
44	17·0	43·0		47·8		−·0027	−·0029	− 1·5	− 0·2	−·0027
50	16·9	43·9		47·8		−·0026	−·0029	− 1·5	− 0·2	−·0026
56	16·8	44·4		47·8		−·0025	−·0029	− 1·7	− 0·5	−·0026
09 02	16·8	44·4	64·9	47·8	64·3	−·0025	−·0029	− 1·7	− 0·5	−·0026
08	16·2	43·8		47·7		−·0026	−·0030	− 2·1	− 0·5	−·0027
14	16·4	43·2		47·7		−·0027	−·0030	− 2·0	− 0·2	−·0027
20	17·0	43·5		47·7		−·0026	−·0030	− 1·6	− 0·5	−·0027

1842.
St. Helena.

December 9.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 2m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
9 09 26	17·3	44·1		47·7		−·0025	−·0030	− 1·5	− 0·6	−·0026
32	17·8	45·9		47·9		−·0022	−·0028	− 1·1	− 0·7	−·0023
38	17·6	45·9		47·9		−·0022	−·0028	− 1·3	− 0·7	−·0023
44	17·2	45·9		47·9		−·0022	−·0028	− 1·6	− 0·7	−·0023
50	17·8	46·4		47·9		−·0021	−·0028	− 1·2	− 0·8	−·0022
56	17·9	47·0		47·9		−·0020	−·0028	− 1·2	− 0·9	−·0021
10 02	18·0	47·9	64·7	47·9	64·1	−·0018	−·0028	− 1·1	− 1·2	−·0019
08	18·0	48·0		47·9		−·0018	−·0028	− 1·1	− 1·2	−·0019
14	18·0	47·1		47·9		−·0020	−·0028	− 1·1	− 0·9	−·0021
20	17·9	46·1		47·9		−·0022	−·0029	− 1·2	− 0·8	−·0023
26	17·8	45·5		47·7		−·0023	−·0030	− 1·3	− 0·8	−·0024
32	17·5	46·3		47·7		−·0022	−·0030	− 1·5	− 0·9	−·0023
38	17·9	47·1		47·7		−·0021	−·0030	− 1·3	− 0·9	−·0022
44	17·9	49·0		47·7		−·0017	−·0030	− 1·3	− 1·4	−·0019
50	18·0	53·1		47·7		−·0009	−·0031	− 1·2	− 2·6	−·0012
56	18·9	53·1		47·7		−·0010	−·0031	− 0·6	− 2·5	−·0013
11 02	19·0	52·9	64·2	47·7	64·1	−·0010	−·0031	− 0·5	− 2·5	−·0013
08	19·2	52·0		47·7		−·0012	−·0031	− 0·4	− 2·1	−·0014
14	19·2	51·3		47·6		−·0014	−·0032	− 0·4	− 2·1	−·0016
20	19·0	51·3		47·6		−·0014	−·0031	− 0·5	− 2·0	−·0016
26	19·0	51·9		47·3		−·0012	−·0033	− 0·5	− 2·5	−·0015
32	19·0	52·1		47·3		−·0012	−·0033	− 0·4	− 2·5	−·0015
38	19·0	52·0		47·3		−·0013	−·0033	− 0·4	− 2·4	−·0016
44	19·0	52·0		47·4		−·0013	−·0032	− 0·4	− 2·1	−·0015
50	19·1	52·0		47·4		−·0013	−·0032	− 0·4	− 2·1	−·0015
56	19·0	51·0		47·4		−·0015	−·0032	− 0·4	− 2·0	−·0017
12 02	19·0	51·0	64·0	47·6	64·0	−·0015	−·0030	− 0·4	− 1·8	−·0017
08	19·0	51·2		47·6		−·0014	−·0030	− 0·4	− 1·9	−·0016
14	19·0	51·8		47·6		−·0013	−·0030	− 0·4	− 2·0	−·0015
20	19·0	51·5		47·6		−·0014	−·0029	− 0·4	− 1·8	−·0016
26	18·9	51·0		47·6		−·0015	−·0029	− 0·4	− 1·7	−·0017
32	18·9	51·9		47·3		−·0014	−·0032	− 0·4	− 2·1	−·0016
38	19·0	52·0		47·3		−·0013	−·0032	− 0·3	− 2·1	−·0015
44	19·0	51·8		47·3		−·0014	−·0032	− 0·3	− 2·1	−·0016
50	19·0	51·1		47·3		−·0015	−·0031	− 0·3	− 1·9	−·0017
56	18·9	51·1		47·3		−·0015	−·0031	− 0·3	− 1·9	−·0017
13 02	19·0	51·8	63·9	47·3	63·8	−·0014	−·0031	− 0·2	− 2·0	−·0016
14 02	19·2	51·8	63·9	47·3	63·8	−·0014	−·0031	+ 0·2	− 2·0	−·0016
15 02	18·9	50·9	63·8	47·6	63·7	−·0016	−·0029	+ 0·4	− 1·5	−·0018
16 02	19·2	51·3	63·8	47·6	63·6	−·0015	−·0028	+ 0·8	− 1·5	−·0017
17 02	18·2	52·9	63·8	47·8	63·4	−·0012	−·0027	+ 0·4	− 1·8	−·0014

1842.
Cape of Good Hope.

December 9.

CAPE OF GOOD HOPE, 1842. DECEMBER 9.

MEAN MONTHLY READINGS OF THE MAGNETOMETERS.

Mean Göttingen Time.	Declination.	H. F. at 69°·9.	V. F. at 69°·7.	Mean Göttingen Time.	Declination.	H. F. at 69°·9.	V. F. at 69°·7.
Hours.	Sc. Div.	Sc. Div.	Sc. Div.	Hours.	Sc. Div.	Sc. Div.	Sc. Div.
00	43·3	84·4	13·2	12	43·3	83·2	17·7
01	44·3	83·8	13·4	13	42·9	83·4	18·0
02	44·4	83·2	15·4	14	42·5	83·6	18·2
03	43·6	83·2	16·9	15	42·0	83·4	18·5
04	43·2	83·4	17·2	16	41·7	83·8	18·7
05	43·5	83·2	17·2	17	40·7	84·3	19·5
06	43·3	83·2	17·7	18	39·1	85·2	19·8
07	43·2	82·2	18·1	19	38·0	85·9	19·4
08	43·5	81·6	18·1	20	38·2	86·3	17·7
09	43·4	81·8	18·1	21	39·5	86·2	15·3
10	43·6	82·5	17·7	22	41·2	85·8	13·8
11	43·4	83·1	17·8	23	42·2	85·3	13·6

Coefficients (A), Approximate Absolute Values (B.)

(A)
- Declin. $a = 0'·751$
- H. F. $k = ·00018$, $q = ·00029$
- V. F. $k = ·00015$, $q = ·00005$

(B) Approx.
- $\psi = 29° 05'$
- X = 4·46
- Y = 6·00
- $\theta = -53° 12'$
- $\phi = 7·50$

1842.
Cape of Good Hope.

December 9.

OBSERVATIONS OF THE MAGNETOMETERS. The Declination was observed 2m. before, and the V. F. 2m. after the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	″	Parts of Total Force.
9 06 02	40·3	74·8	71·7	26·5	71·1	−·0010	+·0014	− 2·3	+ 4·0	+·0005
38	40·0	69·9		28·4		−·0018	+·0017	− 2·4	+ 5·8	+·0004
44	39·8	69·1		28·3		−·0019	+·0016	− 2·6	+ 5·8	+·0003
50	39·7	68·3		29·0		−·0020	+·0017	− 2·6	+ 6·1	+·0004
56	39·3	67·1		30·2		−·0022	+·0019	− 2·9	+ 6·8	+·0004
07 02	38·4	66 4	71·7	31·4	71·4	−·0023	+·0021	− 3·6	+ 7·3	+·0005
08	37·4	66·8		31·7		−·0023	+·0021	− 4·4	+ 7·3	+·0005
14	37·4	67·9		30·8		−·0021	+·0020	− 4·4	+ 6·8	+·0005
20	37·5	68·6		29·4		−·0019	+·0018	− 4·4	+ 6·1	+·0005
26	38·6	69·6		29·2		−·0017	+·0015	− 3·5	+ 5·3	+·0004
32	39·8	69·1		26·0		−·0018	+·0013	− 2·7	+ 5·1	+·0002
38	40·0	68·6		26·0		−·0019	+·0013	− 2·6	+ 5·3	+·0002
44	40·4	67·7		26·2		−·0020	+·0013	− 2·3	+ 5·4	+·0001
50	39·9	66·9		27·2		−·0021	+·0015	− 2·6	+ 5·9	+·0002
56	39·9	67·9		26·3		−·0019	+·0013	− 2·7	+ 5·3	+·0002
08 02	40·2	67·5	71·8	26·4	71·5	−·0020	+·0013	− 2·5	+ 5·4	+·0001
08	40·2	66·9		26·8		−·0021	+·0014	− 2·5	+ 5·8	+·0001
14	39·9	66·2		27·7		−·0022	+·0015	− 2·7	+ 6·1	+·0002
20	39·7	66·4		27·3		−·0022	+·0015	− 2·9	+ 6·1	+·0002
26	39·9	66·2		28·3		−·0023	+·0016	− 2·7	+ 6·4	+·0002
32	39·1	67·0		28·3		−·0021	+·0016	− 3·2	+ 6·1	+·0003
38	38·9	65·8		28·1		−·0023	+·0016	− 3·4	+ 6·4	+·0002
44	39·0	66·9		27·8		−·0021	+·0015	− 3·3	+ 5·9	+·0002
50	39·2	68·1		27·0		−·0019	+·0014	− 3·2	+ 5·4	+·0002
56	38·9	68·5		27·0		−·0019	+·0014	− 3·4	+ 5·4	+·0002
09 02	37·8	69·7	71·7	28·8	71·3	−·0017	+·0017	− 4·2	+ 5·6	+·0005
08	36·1	69·5		29·1		−·0018	+·0017	− 5·5	+ 5·8	+·0004
14	36·1	69·0		28·0		−·0019	+·0016	− 5·5	+ 5·8	+·0003
20	36·2	69·8		27·4		−·0018	+·0015	− 5·5	+ 5·4	+·0003
26	36·0	71·1		27·7		−·0016	+·0015	− 5·6	+ 5·1	+·0004
32	35·2	74·5		25·4		−·0010	+·0012	− 6·2	+ 3·6	+·0004
38	36·1	74·0		23·9		−·0011	+·0010	− 5·6	+ 3·5	+·0003
44	37·0	72·1		23·1		−·0015	+·0007	− 4·9	+ 3·6	−·0001
50	39·1	71·8		21·3		−·0016	+·0006	− 3·4	+ 3·6	−·0002
56	40·0	72·1		20·3		−·0016	+·0005	− 2·7	+ 3·5	−·0002
10 02	41·0	72·5	70·9	19·1	70·8	−·0015	+·0003	− 2·0	+ 3·0	−·0003
08	42·1	72·9		18·1		−·0015	+·0001	− 1·1	+ 2·6	−·0005
14	42·1	71·2		19·6		−·0018	+·0004	− 1·1	+ 3·6	−·0004
20	41·2	69·9		22·1		−·0019	+·0007	− 1·7	+ 4·3	−·0002
26	40·0	69·2		23 0		−·0022	+·0008	− 2·6	+ 4·9	−·0003
32	39·2	70:1		23·9		−·0020	+·0010	− 3·2	+ 4·9	−·0001
38	39·2	72·5		23·5		−·0016	+·0009	− 3·2	+ 4·1	·0000
44	38·2	73·9		22·4		−·0014	+·0007	− 4·0	+ 3·5	·0000
50	38·1	78·3		20·4		−·0006	+·0004	− 4·0	+ 1·7	·0000
56	39·5	81·2		21·2		−·0001	+·0006	− 2·9	+ 1·2	+·0004
11 02	40·2	81·0	70·7	21·2	70·6	−·0001	+·0006	− 2·4	+ 1·2	+·0004
08	40·8	—		—		—	—	− 2·0	—	—
12 02	41·5	76·7	70·0	18·4	70·0	−·0011	+·0001	− 1·4	+ 2·0	−·0003
13 02	41·3	76·2	69·4	21·3	69·3	−·0014	+·0005	− 1·2	+ 3·1	−·0002

OBSERVATIONS WITH THE MAGNETOMETERS

ON DAYS OF

UNUSUAL MAGNETIC DISTURBANCE.

1843.

1843. Toronto. January 2.

TORONTO, 1843. JANUARY 2.

MEAN MONTHLY READINGS OF THE MAGNETOMETERS.

Mean Göttingen Time.	Declination.	H. F. at 44°·8.	V. F. at 45°·0.	Mean Göttingen Time.	Declination.	H. F. at 44°·8.	V. F. at 45°·0.
Hours.	Sc. Div.	Sc. Div.	Sc. Div.	Hours.	Sc. Div.	Sc. Div.	Sc. Div.
00	126·5	481·0	25·5	12	127·6	482·1	25·5
01	128·9	482·3	25·7	13	127·8	482·1	25·5
02	130·8	481·2	25·9	14	128·3	481·9	25·4
03	132·0	475·9	25·4	15	124·6	479·4	25·5
04	131·6	470·6	25·0	16	130·0	479·2	25·5
05	129·0	465·5	25·1	17	129·0	478·1	25·2
06	126·2	463·6	25·7	18	128·3	475·6	25·9
07	124·2	468·8	25·9	19	127·5	476·4	26·1
08	123·3	474·6	25·9	20	127·4	477·2	25·9
09	123·8	480·6	26·1	21	127·3	477·9	25·9
10	125·3	486·0	25·9	22	128·1	480·0	25·7
11	126·3	485·0	25·7	23	128·0	482·7	25·8

Coefficients (A), Approximate Absolute Values (B.)

(A) Declin. $a = 0'\cdot721$

H. F. $k = \cdot000074$, $q = \cdot00027$

V. F. $k = \cdot000093$, $q = \cdot00007$

(B) Approx. $\psi = 1°\,21'$, $X = 3\cdot54$, $Y = 13\cdot44$, $\theta = 75°\,16'$, $\phi = 13\cdot90$

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
2 00 02	105·9	497·6	31·2	38·8	33·0	−·0025	+·0004	−14·8	+ 2·4	+·0002
22	115·8	502·2		35·7		−·0019	+·0001	− 8·3	+ 1·7	·0000
27	119·2	507·0		34·3		−·0016	−·0001	− 6·0	+ 1·3	−·0002
32	122·5	501·0		34·5		−·0019	·0000	− 3·7	+ 1·6	−·0001
37	124·3	511·6		35·6		−·0011	+·0001	− 2·6	+ 1·0	·0000
42	125·9	515·6		36·6		−·0008	+·0002	− 1·5	+ 0·9	+·0001
47	126·1	519·7		36·1		−·0004	+·0001	− 1·5	+ 0·3	+·0001
52	127·6	516·5		36·2		−·0006	+·0001	− 0·6	+ 0·6	+·0001
57	128·6	519·5		37·0		−·0004	+·0002	− 0·1	+ 0·5	+·0002
01 02	129·4	517·3	33·4	37·2	32·4	−·0005	+·0002	+ 0·4	+ 0·6	+·0002
07	129·2	516·4		36·3		−·0006	+·0001	+ 0·1	+ 0·6	+·0001
12	129·8	517·6		37·2		−·0005	+·0002	+ 0·4	+ 0·6	+·0002
17	130·5	514·7		37·4		−·0007	+·0003	+ 0·8	+ 0·9	+·0002
22	130·3	516·1		37·6		−·0005	+·0003	+ 0·6	+ 0·7	+·0003
27	128·9	512·8		37·9		−·0008	+·0003	− 0·6	+ 0·9	+·0002
32	129·3	509·2		37·8		−·0010	+·0003	− 0·4	+ 1·1	+·0002
37	130·3	512·7		37·8		−·0008	+·0003	+ 0·2	+ 0·9	+·0002
57	130·3	511·4		38·2		−·0008	+·0004	− 0·2	+ 1·0	+·0003
02 02	130·7	502·5	33·6	37·9	34·4	−·0015	+·0004	− 0·1	+ 1·6	+·0003
07	130·2	505·5		37·5		−·0012	+·0003	− 0·5	+ 1·3	+·0002
27	131·0	503·4		38·8		−·0012	+·0005	− 0·2	+ 1·4	+·0004
32	130·4	499·2		35·1		−·0015	+·0002	− 0·7	+ 1·4	+·0001
37	130·3	491·3		35·1		−·0020	+·0002	− 0·8	+ 1·9	+·0001
42	129·7	490·3		37·8		−·0020	+·0004	− 1·3	+ 2·0	+·0002
47	127·7	481·3		37·6		−·0026	+·0004	− 2·9	+ 2·5	+·0002
52	127·7	476·7		36·8		−·0029	+·0003	− 3·0	+ 2·7	+·0001
57	129·7	470·8		37·5		−·0033	+·0004	− 1·5	+ 3·1	+·0002
03 02	125·5	472·6	34·0	37·5	34·8	−·0032	+·0004	− 4·7	+ 3·1	+·0002
07	126·7	484·9		37·5		−·0022	+·0004	− 3·8	+ 2·2	+·0002
12	126·9	485·2		37·5		−·0021	+·0004	− 3·6	+ 2·1	+·0002
17	127·3	476·1		38·1		−·0027	+·0005	− 3·3	+ 2·7	+·0003
22	128·8	471·1		38·1		−·0030	+·0005	− 2·3	+ 3·0	+·0003
27	128·6	471·6		38·1		−·0029	+·0005	− 2·3	+ 2·9	+·0003
32	126·2	466·5		37·3		−·0032	+·0004	− 4·0	+ 3·1	+·0002
37	126·0	466·0		37·0		−·0032	+·0004	− 4·2	+ 3·1	+·0002
42	128·3	470·4		37·0		−·0028	+·0004	− 2·5	+ 2·7	+·0002
47	130 8	478·9		37·7		−·0021	+·0005	− 0·6	+ 2·2	+·0003
52	129·6	475·4		38·0		−·0023	+·0005	− 1·5	+ 2·4	+·0003
57	127·3	487·5		37 5		−·0014	+·0005	− 3·1	+ 1·6	+·0004

1843. Toronto. January 2.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours. $\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
2 04 02	124·8	472·3	35·4	36·6	35·7	−·0024	+·0004	− 4·9	+ 2·4	+·0002
07	125·5	483·6		36·6		−·0015	+·0004	− 4·2	+ 1·6	+·0003
12	125·9	485·3		37·2		−·0013	+·0005	− 3·8	+ 1·5	+·0004
17	124·5	484·8		36·9		−·0013	+·0005	− 4·7	+ 1·5	+·0004
22	124·7	482·9		37·3		−·0014	+·0005	− 4·3	+ 1·6	+·0004
27	126·6	484·4		37·3		−·0012	+·0005	− 2·8	+ 1·4	+·0004
32	125·8	481·9		37·1		−·0014	+·0005	− 3·3	+ 1·6	+·0004
37	127·9	488·8		37·1		−·0008	+·0005	− 1·5	+ 1·1	+·0004
42	126·9	484·4		37·8		−·0011	+·0006	− 2·2	+ 1·4	+·0005
47	124·8	480·0		37·8		−·0013	+·0006	− 3·5	+ 1·6	+·0005
52	127·4	475·1		37·8		−·0016	+·0006	− 1·4	+ 1·9	+·0005
57	127·9	483·5		37·8		−·0009	+·0006	− 0·9	+ 1·3	+·0005
05 02	125·0	478·5	36·6	37·8	36·4	−·0013	+·0006	− 2·9	+ 1·6	+·0005

1843. St. Helena. January 2

ST. HELENA, 1843. JANUARY 2 and 11.

MEAN MONTHLY READINGS OF THE MAGNETOMETERS.

Mean Göttingen Time.	Declination.	H. F. at 68°·1.	V. F. at 67°·9.	Mean Göttingen Time.	Declination.	H. F. at 68°·1.	V. F. at 67°·9.
Hours.	Sc. Div.	Sc. Div.	Sc. Div.	Hours.	Sc. Div.	Sc. Div.	Sc. Div.
00	19·7	61·9	45·0	12	19·0	54·4	45·8
01	19·7	62·5	45·0	13	18·6	54·0	45·6
02	18·2	62·3	45·2	14	18·3	54·2	45·5
03	16·7	61·5	45·5	15	17·9	54·6	45·4
04	15·7	60·1	45·7	16	17·5	54·9	45·3
05	15·6	58·6	45·8	17	17·1	54·9	45·2
06	16·4	57·6	45·7	18	16·9	54·9	45·2
07	17·3	56·3	45·7	19	16·4	55·5	45·1
08	18·1	55·3	45·7	20	15·7	57·1	45·1
09	18·6	54·9	45·7	21	16·5	58·3	44·9
10	18·9	54·5	45·7	22	18·0	59·6	44·9
11	18·9	54·0	45·7	23	19·1	60·9	44·7

Coefficients (A), Approximate Absolute Values (B).

(A)
- Declin. $a = 0'·711$
- H. F. $k = ·00019$, $q = ·00028$
- V. F. $k = ·00130$, $q = ·00002$

(B) Approx.
- $\psi = 23°\,10'$
- $X = 5·57$
- $Y = 2·21$
- $\theta = -\,21°\,37'$
- $\phi = 6·00$

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 2m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours. $\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force
2 03 02	18·7	—	—	—	—	—	—	+ 1·4	—	—
04 02	14·7	—	—	—	—	—	—	− 0·7	—	—
06	14·2	—		—		—	—	− 1·1	—	—
10	14·0	—		—		—	—	− 1·2	—	—
14	13·8	—		—		—	—	− 1·3	—	—
18	13·4	—		—		—	—	− 1·6	—	—
22	13·0	—		—		—	—	− 1·9	—	—
26	12·8	—		—		—	—	− 2·0	—	—
30	12·8	—		—		—	—	− 2·0	—	—
34	12·8	—		—		—	—	− 2·0	—	—
38	12·5	—		—		—	—	− 2·2	—	—
42	12·6	—		—		—	—	− 2·1	—	—
46	13·0	—		—		—	—	− 1·8	—	—
50	13·5	—		—		—	—	− 1·5	—	—

1843.
St. Helena.

January 2 and 11.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 2m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
						$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta \psi$	$\Delta \theta$	$\frac{\Delta \phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
2 04 54	13·8	—	—	—	—	—	—	− 1·3	—	—
58	13·5	—		—		—	—	− 1·5	—	—
05 02	13·5	—	—	—	—	—	—	− 1·5	—	—
06	13·1	—		—		—	—	− 1·8	—	—
10	13·1	—		—		—	—	− 1·8	—	—
14	13·2	—		—		—	—	− 1·8	—	—
18	13·2	—		—		—	—	− 1·8	—	—
22	13·8	—		—		—	—	− 1·5	—	—
26	14·1	—		—		—	—	− 1·3	—	—
30	14·2	—		—		—	—	− 1·3	—	—
34	14·2	—		—		—	—	− 1·3	—	—
38	14·1	—		—		—	—	− 1·4	—	—
42	14·2	—		—		—	—	− 1·3	—	—
46	14·3	—		—		—	—	− 1·3	—	—
50	14·5	—		—		—	—	− 1·2	—	—
54	14·8	—		—		—	—	− 1·1	—	—
58	14·9	—		—		—	—	− 1·0	—	—
06 02	15·0	—	—	—	—	—	—	− 1·0	—	—
06	15·1	—		—		—	—	− 1·0	—	—
10	15·1	—		—		—	—	− 1·0	—	—
14	15·0	—		—		—	—	− 1·1	—	—
18	15·3	—		—		—	—	− 0·9	—	—
22	15·3	—		—		—	—	− 1·0	—	—
26	15·8	—		—		—	—	− 0·7	—	—
30	15·8	—		—		—	—	− 0·7	—	—
34	15·8	—		—		—	—	− 0·8	—	—
38	16·0	—		—		—	—	− 0·6	—	—
42	16·1	—		—		—	—	− 0·6	—	—
46	16·1	—		—		—	—	− 0·7	—	—
50	16·3	—		—		—	—	− 0·6	—	—
54	16·7	—		—		—	—	− 0·3	—	—
58	16·9	—		—		—	—	− 0·2	—	—
07 02	16·9	—	—	—	—	—	—	− 0·3	—	—
06	16·9	—		—		—	—	− 0·4	—	—
10	16·9	—		—		—	—	− 0·4	—	—
14	16·9	—		—		—	—	− 0·4	—	—
18	16·5	—		—		—	—	− 0·7	—	—
22	16·3	—		—		—	—	− 0·9	—	—
26	16·4	—		—		—	—	− 0·8	—	—
30	16·7	—		—		—	—	− 0·7	—	—
34	16·9	—		—		—	—	− 0·6	—	—
38	17·0	—		—		—	—	− 0·6	—	—
42	17·1	—		—		—	—	− 0·5	—	—
46	17·1	—		—		—	—	− 0·6	—	—
50	17·2	—		—		—	—	− 0·5	—	—
54	17·3	—		—		—	—	− 0·5	—	—
58	17·2	—		—		—	—	− 0·6	—	—
08 02	17·2	—	—	—	—	—	—	− 0·6	—	—
32	18·1	—		—		—	—	− 0·2	—	—
09 02	18·2	—	—	—	—	—	—	− 0·3	—	—
11 06 02	15·4	55·9	69·1	47·4	68·5	·0000	+·0022	− 0·7	+ 2·6	+·0003
07 02	16·9	50·9	69·0	47·3	68·5	−·0008	+·0021	− 0·3	+ 3·4	−·0004
08	16·9	50·3		47·3		−·0009	+·0021	− 0·4	+ 3·5	−·0005
14	16·9	49·6		47·2		−·0010	+·0020	− 0·4	+ 3·5	−·0006
20	16·7	49·0		47·2		−·0011	+·0020	− 0·6	+ 3·5	−·0007
26	16·9	48·6		47·1		−·0011	+·0018	− 0·5	+ 3·4	−·0007
32	16·9	48·2		47·1		−·0012	+·0018	− 0·6	+ 3·5	−·0008
38	16·9	48·0		47·1		−·0012	+·0018	− 0·6	+ 3·5	−·0008
44	16·9	47 6		47·1		−·0013	+·0018	− 0·7	+ 3·5	−·0009

1843.
St. Helena.

January 11.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 2m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
11 07 50	17·0	47·3		47·1		−·0013	+·0018	− 0·6	+ 3·5	−·0009
56	17·1	46·9		47·1		−·0014	+·0018	− 0·6	+ 3·8	−·0010
08 02	16·9	46·3	69·0	47·1	68·5	−·0015	+·0018	− 0·8	+ 3·9	−·0011
08	16·8	45·7		47·1		−·0016	+·0018	− 1·0	+ 4·0	−·0011
14	16·8	45·0		47·1		−·0017	+·0018	− 1·0	+ 4·1	−·0012
20	16·9	44·5		47·1		−·0018	+·0018	− 1·0	+ 4·2	−·0013
26	16·9	44·2		47·1		−·0018	+·0018	− 1·0	+ 4·2	−·0013
32	17·0	44·4		47·1		−·0018	+·0018	− 1·0	+ 4·2	−·0013
38	17·1	44·9		47·1		−·0017	+·0018	− 0·9	+ 4·1	−·0012
44	17·5	45·9		47·1		−·0015	+·0018	− 0·7	+ 3·9	−·0011
50	17·5	46·9		47·1		−·0013	+·0018	− 0·7	+ 3·5	−·0009
56	17·4	47·9		47·1		−·0011	+·0018	− 0·8	+ 3·4	−·0007
09 02	17·5	48·4	69·0	47·1	68·5	−·0010	+·0018	− 0·8	+ 3·3	−·0006
08	17·5	49·0		47·1		−·0009	+·0018	− 0·8	+ 3·2	−·0005
14	17·9	49·2		47·1		−·0008	+·0018	− 0·6	+ 3·1	−·0004
20	18·1	49·8		47·1		−·0007	+·0018	− 0·4	+ 2·8	−·0004
26	18·3	49·9		47·1		−·0007	+·0018	− 0·3	+ 2·8	−·0004
32	18·5	50·1		47·1		−·0007	+·0018	− 0·2	+ 2·8	−·0004
38	18·7	50·2		47·0		−·0007	+·0017	− 0·1	+ 2·8	−·0004
44	18·7	50·8		47·7		−·0005	+·0026	− 0·1	+ 3·5	−·0001
50	18·8	50·9		47·6		−·0005	+·0025	0·0	+ 3·5	−·0001
56	18·7	50·9		47·8		−·0005	+·0027	− 0·1	+ 3·8	−·0001
10 02	18·8	50·8	68·8	47·8	68·5	−·0005	+·0027	− 0·1	+ 3·8	−·0001
08	18·6	50·7		48·1		−·0005	+·0031	− 0·2	+ 4·2	·0000
14	18·6	50·7		48·1		−·0005	+·0031	− 0·2	+ 4·2	·0000
20	18·6	50·8		48·1		−·0005	+·0031	− 0·2	+ 4·2	·0000
26	18·7	50·9		48·1		−·0004	+·0031	− 0·1	+ 4·1	+·0001
32	18·7	50·9		48·1		−·0004	+·0031	− 0·1	+ 4·1	+·0001
38	18·7	50·9		48·1		−·0004	+·0031	− 0·1	+ 4·1	+·0001
44	18·7	50·8		48·1		−·0004	+·0031	− 0·1	+ 4·1	+·0001
50	18·4	50·4		47·8		−·0005	+·0027	− 0·4	+ 3·8	−·0001
56	18·3	50·1		47·8		−·0005	+·0027	− 0·4	+ 3·8	−·0001
11 02	18·3	50·0	68·9	47·8	68·4	−·0005	+·0027	− 0·4	+ 3·8	−·0001
32	18·6	50·0		47·8(a)		−·0007	+·0026	− 0·3	+ 3·9	−·0003
12 02	18·3	50·8	67·8	47·8	68·1	−·0008	+·0026	− 0·5	+ 4·0	−·0003

1843.
Cape of Good Hope.

January 11.

CAPE OF GOOD HOPE, 1843. JANUARY 11.

MEAN MONTHLY READINGS OF THE MAGNETOMETERS.

Mean Göttingen Time.	Declination.	H. F. at 71°·2.	V. F. at 71°·0.	Mean Göttingen Time.	Declination.	H. F. at 71°·2.	V. F. at 71°·0.
Hours.	Sc. Div.	Sc. Div.	Sc. Div.	Hours.	Sc. Div.	Sc. Div.	Sc. Div.
00	49·8	84·2	39·8	12	49·9	82·9	43·0
01	52·2	84·4	39·4	13	49·6	82·8	43·3
02	53·0	84·1	40·8	14	49·3	83·1	43·5
03	52·6	84·3	42·0	15	49·3	83·2	43·7
04	51·9	84·5	42·2	16	49·0	83·5	44·1
05	51·0	83·9	42·1	17	48·7	83·9	44·5
06	50·0	83·2	42·3	18	48·6	84·7	45·1
07	50·5	82·3	42·6	19	47·5	84·9	45·2
08	50·7	82·1	42·6	20	45·8	84·7	43·7
09	50·4	81·9	42·3	21	44·1	83·9	40·7
10	50·3	82·1	42·4	22	44·5	83·6	39·3
11	50·2	82·2	43·0	23	46·8	84·0	39·2

Coefficients (A), Approximate Absolute Values (B).

(A) Declin. $a = 0'·751$

H. F. $k = ·00018$, $q = ·00029$

V. F. $k = ·00015$, $q = ·00005$

(B) Approx. $\psi = 29° 05'$, $X = 4·46$, $Y = 6·00$, $\theta = -53° 14'$, $\phi = 7·50$

(a) Observed at 28 m.

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OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
11 08 02	41·9	70·0	73·8	51·2	73·7	−·0014	+·0014	− 6·6	+ 4·6	−·0004
22	41·3	68·1		45·3		−·0017	+·0006	− 7·0	+ 3·8	−·0002
27	41·1	68·2		45·1		−·0016	+·0005	− 7·1	+ 3·5	−·0002
32	41·0	68·8		45·2		−·0015	+·0006	− 7·2	+ 3·5	−·0001
37	41·0	69·5		48·6		−·0014	+·0011	− 7·1	+ 4·1	+·0002
42	41·2	70·2		49·2		−·0012	+·0012	− 7·0	+ 4·0	+·0003
47	41·3	71·2		49·4		−·0010	+·0012	− 6·9	+ 3·6	+·0004
52	41·5	72·1		47·8		−·0009	+·0010	− 6·7	+ 3·1	+·0003
57	41·7	72·8		47·5		−·0008	+·0009	− 6·5	+ 2·8	+·0003
09 02	42·0	73·2	73·8	46·4	73·8	−·0008	+·0008	− 6·3	+ 2·6	+·0002
07	42·1	73·3		45·8		−·0007	+·0007	− 6·2	+ 2·3	+·0002
12	42·4	73·7		45·2		−·0007	+·0006	− 6·0	+ 2·1	+·0001
17	42·9	73·8		44·5		−·0007	+·0005	− 5·6	+ 2·0	+·0001
22	43·0	73·9		44·2		−·0007	+·0004	− 5·6	+ 1·8	·0000
27	43·1	74·0		43·9		−·0006	+·0004	− 5·5	+ 1·7	·0000
32	43·2	74·2		43·7		−·0006	+·0004	− 5·4	+ 1·7	·0000
37	43·2	74·4		43·3		−·0005	+·0003	− 5·4	+ 1·3	·0000
42	43·3	74·8		43·3		−·0005	+·0003	− 5·3	+ 1·3	·0000
47	43·3	75·0		43·1		−·0005	+·0002	− 5·3	+ 1·2	·0000
52	43·3	75·0		42·9		−·0005	+·0002	− 5·3	+ 1·2	·0000
57	43·2	75·1		42·9		−·0005	+·0002	− 5·3	+ 1·2	·0000
10 02	43·2	75·1	74·0	43·8	73·7	−·0005	+·0002	− 5·3	+ 1·2	·0000

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For Mean Monthly Readings, *see* page 163.

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28 04 02(a)	17·6	58·5	71·8	44·3	71·2	+·0007	−·0017	+ 1·3	− 2·8	+·0004
05 02	15·4	50·9	72·0	44·5	71·4	−·0004	−·0016	− 0·1	− 1·4	−·0006
08	15·0	49·0		44·5		−·0007	−·0016	− 0·5	− 0·9	−·0008
14	15·0	47·0		44·5		−·0011	−·0016	− 0·6	− 0·6	−·0012
20	15·1	46·2		44·5		−·0012	−·0016	− 0·5	− 0·5	−·0013
26	14·9	45·8		44·5		−·0013	−·0016	− 0·7	− 0·2	−·0013
32	14·8	45·2		44·5		−·0014	−·0014	− 0·8	0·0	−·0014
38	14·2	45·0		44·5		−·0014	−·0014	− 1·3	0·0	−·0014
44	14·1	44·8		44·5		−·0014	−·0014	− 1·5	0·0	−·0014
50	13·9	44·0		44·5		−·0015	−·0014	− 1·6	+ 0·1	−·0015
56	13·8	44·1		44·5		−·0015	−·0014	− 1·8	+ 0·1	−·0015
06 02	13·2	44·9	72·0	44·5	71·5	−·0013	−·0014	− 2·2	− 0·1	−·0013
07	13·2	45·0		44·5		−·0013	−·0014	− 2·3	− 0·1	−·0013
12	13·3	45·1		44·5		−·0013	−·0014	− 2·3	− 0·1	−·0013
17	13·3	45·1		44·5		−·0013	−·0014	− 2·3	− 0·1	−·0013
22	13·9	45·8		44·5		−·0011	−·0014	− 2·0	− 0·2	−·0011
27	14·0	45·1		44·5		−·0012	−·0014	− 2·0	− 0·2	−·0012
32	14·1	45·3		44·5		−·0012	−·0014	− 2·0	− 0·2	−·0012
37	14·1	45·4		44·5		−·0011	−·0014	− 2·0	− 0·2	−·0011
42	14·1	45·1		44·5		−·0012	−·0014	− 2·0	− 0·2	−·0012
47	14·9	45·0		44·5		−·0012	−·0014	− 1·5	− 0·2	−·0012
52	14·9	45·0		44·5		−·0012	−·0014	− 1·6	− 0·2	−·0012
57	15·0	45·0		44·5		−·0011	−·0014	− 1·5	− 0·2	−·0011
07 02	15·0	45·0	71·8	44·5	71·3	−·0011	−·0014	− 1·6	− 0·2	−·0011
07	15·0	44·8		44·5		−·0011	−·0014	− 1·7	− 0·2	−·0011
12	15·1	44·8		44·5		−·0011	−·0014	− 1·6	− 0·2	−·0011
17	15·2	44·8		44·5		−·0011	−·0014	− 1·6	− 0·2	−·0011
22	15·2	44·8		44·5		−·0011	−·0014	− 1·7	− 0·2	−·0011
27	15·7	44·9		44·5		−·0011	−·0014	− 1·3	− 0·2	−·0011
32	15·8	44·8		44·5		−·0011	−·0014	− 1·3	− 0·2	−·0011
37	15·9	44·9		44·5		−·0010	−·0014	− 1·3	− 0·5	−·0011
42	16·0	45·0		44·5		−·0010	−·0014	− 1·3	− 0·5	−·0011
47	16·1	45·0		44·5		−·0010	−·0014	− 1·3	− 0·5	−·0011
52	16·2	45·0		44·5		−·0010	−·0014	− 1·3	− 0·5	−·0011
57	16·4	45·0		44·5		−·0010	−·0014	− 1·1	− 0·5	−·0011

(a) The Declination was observed 2m. before, and the V. F. 2m. after the times specified.

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OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 2m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
						$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta \psi$	$\Delta \theta$	$\frac{\Delta \phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
28 08 02	16·8	45·1	71·8	44·4	71·3	−·0009	−·0016	− 0·9	− 0·8	−·0010
07	16·9	44·8		44·4		−·0010	−·0016	− 0·8	− 0·7	−·0011
12	16·9	44·9		44·4		−·0010	−·0016	− 0·9	− 0·7	−·0011
17	17·0	45·0		44·4		−·0009	−·0016	− 0·8	− 0·8	−·0010
22	17·0	44·8		49·4		−·0010	−·0016	− 0·9	− 0·7	−·0011
27	17·0	44·5		44·4		−·0010	−·0016	− 0·9	− 0·7	−·0011
32	17·0	44·2		44·4		−·0011	−·0016	− 0·9	− 0·6	−·0012
37	17·1	44·3		44·4		−·0011	−·0016	− 0·9	− 0·6	−·0012
42	17·2	44·0		44·4		−·0011	−·0016	− 0·8	− 0·6	−·0012
47	17·2	44·0		44·4		−·0011	−·0016	− 0·9	− 0·6	−·0012
52	17·4	44·0		44·4		−·0011	−·0016	− 0·8	− 0·6	−·0012
57	17·8	43·2		44·4		−·0013	−·0016	− 0·6	− 0·2	−·0013
09 02	17·7	43·5	71·6	44·4	71·2	−·0012	−·0016	− 0·6	− 0·5	−·0013
07	17·7	43·9		44·4		−·0011	−·0016	− 0·6	− 0·6	−·0012
12	17·9	44·0		44·3		−·0011	−·0017	− 0·6	− 0·7	−·0012
17	17·9	44·1		44·3		−·0011	−·0017	− 0·6	− 0·7	−·0012
22	18·0	44·8		44·3		−·0010	−·0017	− 0·5	− 0·8	−·0011
27	18·0	45·0		44·3		−·0009	−·0017	− 0·5	− 0·9	−·0010
32	18·0	45·0		44·3		−·0009	−·0017	− 0·6	− 0·9	−·0010
37	18·0	45·1		44·3		−·0009	−·0017	− 0·6	− 0·9	−·0010
42	18·0	45·1		44·3		−·0009	−·0017	− 0·6	− 0·9	−·0010
47	18·0	45·1		49·3		−·0009	−·0017	− 0·6	− 0·9	−·0010
52	18·0	45·6		44·3		−·0009	−·0017	− 0·6	− 0·9	−·0010
57	18·0	45·9		44·3		−·0008	−·0017	− 0·6	− 0·9	−·0009
10 02	18·0	46·0	71·1	44·3	71·1	−·0008	−·0017	− 0·6	− 0·9	−·0009
32	18·0	46·0		44·3(a)		−·0008	−·0018	− 0·6	− 1·2	−·0009
11 02	18·1	46·0	70·9	44·3(a)	70·8	−·0007	−·0018	− 0·6	− 1·3	−·0008
32	19·2	49·9		44·3(a)		−·0001	−·0018	+ 0·2	− 2·0	−·0003
37	19·5	50·0		44·7(a)		·0000	−·0014	+ 0·4	− 1·7	−·0002
42	19·2	49·6		44·7(a)		−·0001	−·0014	+ 0·1	− 1·4	−·0003
47	19·0	49·3		44·7(a)		−·0002	−·0014	0·0	− 1·4	−·0004
52	18·8	49·0		44·7(a)		−·0003	−·0014	− 0·1	− 1·3	−·0004
57	18·7	49·0		44·7(a)		−·0003	−·0014	− 0 2	− 1·3	−·0004
12 02	18·7	49·6	70·8	44·7(a)	70·5	−·0002	−·0014	− 0·2	− 1·4	−·0004

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MEAN MONTHLY READINGS OF THE MAGNETOMETERS.

Mean Göttingen Time.	Declination.	H. F. at 69°·9.	V. F. at 69°·8.	Mean Göttingen Time.	Declination.	H. F. at 69°·9.	V. F. at 69°·8.
Hours.	Sc. Div.	Sc. Div.	Sc. Div.	Hours.	Sc. Div.	Sc. Div.	Sc. Div.
00	16·3	59·0	40·4	12	17·4	52·0	41·2
01	18·8	59·7	40·8	13	17·4	52·1	41·0
02	19·0	58·7	40·9	14	16·9	52·1	40·9
03	18·3	57·1	41·1	15	16·7	52·1	40·8
04	17·6	56·2	41·4	16	16·5	52·1	40·8
05	16·6	55·2	41·5	17	16·2	52·0	40·8
06	16·1	54·1	41·7	18	16·0	52·0	40·8
07	16·3	53·1	41·6	19	15·8	52·3	40·7
08	16·9	52·5	41·6	20	13·7	53·5	40·7
09	17·1	52·1	41·6	21	11·9	54 7	40·6
10	17·2	51·7	41·4	22	11·8	56·0	40·5
11	17·5	52·0	41·3	23	13·5	57·4	40·2

Coefficients (A), Approximate Absolute Values (B.)

(A)
- Declin. a = 0′·711
- H. F. h = ·00019, q = ·00028
- V. F. h = ·00130, q = ·00002

(B) Approx.
- ψ = 23° 11′
- X = 5·57
- Y = 2·21
- θ = − 21° 38′
- ϕ = 6·00

(a) Observed 4m. before the times specified.

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OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
						$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta \psi$	$\Delta \theta$	$\frac{\Delta \phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
5 22 02	8·6	57·3	68·9	44·0	68·4	·0000	+·0046	− 2·2	+ 5·4	+·0006
07	8·9	57·7		44·0		·0000	+·0046	− 2·1	+ 5·4	+·0006
12	8·9	57·8		44·0		·0000	+·0047	− 2·2	+ 5·4	+·0006
17	9·0	58·0		44·0		·0000	+·0047	− 2·2	+ 5·4	+·0006
22	9·0	57·9		44·0		·0000	+·0047	− 2·4	+ 5·4	+·0006
27	9·0	57·9		44·0		·0000	+·0047	− 2·5	+ 5·4	+·0006
32	9·0	57·9		44·0		−·0001	+·0048	− 2·5	+ 5·8	+·0006
37	9·0	58·0		44·0		−·0001	+·0048	− 2·7	+ 5·8	+·0006
42	9·1	58·1		44·0		−·0001	+·0048	− 2·7	+ 5·8	+·0006
47	9·3	58·3		44·0		·0000	+·0048	− 2·7	+ 5·7	+·0007
52	9·8	58·2		44·0		−·0001	+·0049	− 2·4	+ 5·9	+·0006
57	10·0	58·1		44·0		−·0001	+·0049	− 2·4	+ 5·9	+·0006
23 02	10·3	58·2	68·9	44·0	68·7	−·0001	+·0049	− 2·2	+ 5·9	+·0006
07	10·9	58·5		44·0		−·0001	+·0049	− 2·0	+ 5·9	+·0006
12	11·0	58·8		43 9		−·0001	+·0048	− 2·1	+ 5·8	+·0006
17	11·6	58·9		43·9		−·0001	+·0048	− 1·8	+ 5·8	+·0006
22	12·0	58·9		43·8		−·0001	+·0046	− 1·7	+ 5·4	+·0005
27	12·1	59·0		43·8		−·0001	+·0046	− 1·8	+ 5·4	+·0005
32	12·5	59·1		43·8		−·0001	+·0046	− 1·7	+ 5·4	+·0005
37	12·6	59·5		43·8		·0000	+·0046	− 1·8	+ 5·4	+·0006
42	12·9	59·9		43·8		·0000	+·0046	− 1·8	+ 5·4	+·0006
47	13·0	59·9		43·8		·0000	+·0046	− 1·8	+ 5·4	+·0006
52	13·2	60·0		43·8		·0000	+·0044	− 1·8	+ 5·2	+·0006
57	13·6	60·0		43·8		·0000	+·0044	− 1·8	+ 5·2	+·0006
6 00 02	13·9	60·1	69·1	43·8	69·0	·0000	+·0044	− 1·7	+ 5·2	+·0006
07	14·0	60·6		43·8		+·0001	+·0044	− 1·8	+ 4·9	+·0007
12	14·1	60·7		43·8		+·0001	+·0043	− 1·8	+ 4·9	+·0007
17	14·2	60 8		43·8		+·0001	+·0043	− 1·9	+ 4·9	+·0007
22	14·8	60·9		43·8		+·0001	+·0043	− 1·6	+ 4·9	+·0007
27	15·0	61·4		43·8		+·0002	+·0042	− 1·6	+ 4·7	+·0007
32	15·1	62·0		43·8		+·0003	+·0042	− 1·7	+ 4·6	+·0008
37	15·3	62·0		43·8		+·0003	+·0042	− 1·8	+ 4·6	+·0008
42	15·5	62·1		43·8		+·0003	+·0040	− 1·8	+ 4·2	+·0008
47	15·5	62·4		43·8		+·0004	+·0040	− 1·9	+ 4·2	+·0009
52	15·5	62·6		43·8		+·0004	+·0040	− 2·0	+ 4·2	+·0009
57	15·4	62·5		43·8		+·0004	+·0039	− 2·2	+ 4·1	+·0009
01 02	15·3	62·1	69·4	43·8	69·3	+·0003	+·0039	− 2·5	+ 4·2	+·0008
32	15·4	60·5		43·8(a)		+·0002	+·0039	− 2·5	+ 4·2	+·0007
02 02	16·2	60·0	69·8	43·8(a)	69·5	+·0002	+·0038	− 2·0	+ 4·2	+·0007
32	15·9	56·0		43·8		−·0004	+·0036	− 2·0	+ 4·7	+·0001
37	15·9	56·0		43·8		−·0003	+·0036	− 1·9	+ 4·6	+·0002
42	16·0	55·9		43·8		−·0003	+·0036	− 1·8	+ 4·6	+·0002
47	15·7	55·8		43·8		−·0003	+·0036	− 2·0	+ 4·6	+·0002
52	15·6	55·8		43·8		−·0003	+·0035	− 2·0	+ 4·5	+·0002
57	15·6	55·7		43·8		−·0003	+·0035	− 2·0	+ 4·5	+·0002
03 02	15·9	55·8	70·0	43·8	69·7	−·0002	+·0035	− 1·7	+ 4·2	+·0003
07	16·0	56·0		43·8		−·0002	+·0035	− 1·5	+ 4·2	+·0003
12	16·1	56·0		43·7		−·0001	+·0033	− 1·5	+ 4·0	+·0004
17	16·1	56·0		43·7		−·0001	+·0033	− 1·4	+ 4·0	+·0004
22	16·1	56·1		43·7		·0000	+·0033	− 1·4	+ 3·9	+·0004
27	16·3	56·1		43·7		·0000	+·0033	− 1·2	+ 3·9	+·0004
32	16·3	55·9		43·7		·0000	+·0031	− 1·2	+ 3·5	+·0004
37	16·3	55·8		43·7		·0000	+·0031	− 1·1	+ 3·5	+·0004
42	16·3	55·5		43·7		·0000	+·0031	− 1·1	+ 3·5	+·0004
47	16·5	55·5		43·7		·0000	+·0031	− 0·9	+ 3·5	+·0004
52	16·5	55·3		43·7		·0000	+·0030	− 0·8	+ 3·5	+·0004
57	16·8	55·2		43·7		·0000	+·0030	− 0·6	+ 3·5	+·0004
04 02	16·8	55·1	70·7	43·7(a)	70·3	·0000	+·0030	− 0·6	+ 3·5	+·0004
32	17·0	55·0		44·0(a)		+·0001	+·0030	− 0·1	+ 3·4	+·0005
05 02	17·9	54·1	71·0	44·0(a)	70·6	+·0001	+·0033	+ 0·9	+ 3·8	+·0005
32	17·2	52·8		44·0(a)		·0000	+·0031	+ 0·6	+ 3·5	+·0004

(a) Observed 4 m. before the times specified.

1848.
St. Helena.
February 6.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
						$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta \psi$	$\Delta \theta$	$\frac{\Delta \phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
6 06 02	16·2	50·7	71·1	44·0	70·6	−·0003	+·0030	+ 0·1	+ 3·9	+·0001
37	15·7	48·2		44·0		−·0007	+·0031	− 0·4	+ 4·5	−·0002
42	15·5	48·0		44·0		−·0007	+·0031	− 0·5	+ 4·5	−·0002
47	15·4	47·8		44·0		−·0007	+·0031	− 0·6	+ 4·5	−·0002
52	15·2	47·4		44·0		−·0008	+·0031	− 0·8	+ 4·6	−·0003
57	15·1	47·6		44·0		−·0007	+·0031	− 0·8	+ 4·5	−·0002
07 02	15·1	47·2	71·0	44·0	70·5	−·0008	+·0031	− 0·8	+ 4·6	−·0003
07	15·1	47·0		44·0		−·0008	+·0031	− 0·9	+ 4·6	−·0003
12	15·1	47·1		44·0		−·0008	+·0031	− 0·9	+ 4·6	−·0003
17	15·6	47·1		44·0		−·0008	+·0031	− 0·6	+ 4·6	−·0003
22	15·6	47·6		44·0		−·0007	+·0031	− 0·6	+ 4·5	−·0002
27	15·6	47·4		44·0		−·0007	+·0031	− 0·7	+ 4·5	−·0002
32	15·6	47·1		44·0		−·0008	+·0031	− 0·7	+ 4·6	−·0003
37	15·7	46·9		44·0		−·0008	+·0031	− 0·7	+ 4·6	−·0003
42	15·8	46·7		45·0		−·0009	+·0031	− 0·6	+ 4·7	−·0004
47	16·0	46·0		44·0		−·0010	+·0031	− 0·6	+ 4·8	−·0005
52	16·0	46·0		44·0		−·0010	+·0031	− 0·6	+ 4·8	−·0005
57	16·0	46·0		44·0		−·0010	+·0031	− 0·6	+ 4·8	−·0005
08 02	16·1	46·0	70·9	44·0	70·5	−·0010	+·0031	− 0·6	+ 4·8	−·0005
07	16·2	46·0		44·0		−·0010	+·0031	− 0·5	+ 4·8	−·0005
12	16·4	46·1		45·0		−·0009	+·0044	− 0·4	+ 6·1	−·0002
17	16·7	46·0		45·0		−·0009	+·0044	− 0·1	+ 6·1	−·0002
22	16·5	45·9		45·0		−·0010	+·0044	− 0·4	+ 6·4	−·0003
27	16·2	45·7		45·0		−·0010	+·0044	− 0·6	+ 6·4	−·0003
32	16·2	45·1		45·0		−·0011	+·0044	− 0·6	+ 6·5	−·0004
37	16·4	45·7		45·0		−·0010	+·0044	− 0·4	+ 6·4	−·0003
42	16·4	45·8		45·0		−·0009	+·0044	− 0·4	+ 6·1	−·0002
47	16·1	45·8		45·0		−·0009	+·0044	− 0·6	+ 6·1	−·0002
52	16·0	44·9		45·0		−·0011	+·0044	− 0·8	+ 6·5	−·0004
57	15·8	44·7		45·0		−·0011	+·0044	− 0·9	+ 6·5	−·0004
09 02	15·7	44·3	71·0	45·0	70·6	−·0012	+·0044	− 1·0	+ 6·6	−·0004
07	15·7	44·0		44·8		−·0012	+·0042	− 1·0	+ 6·4	−·0005
12	15·7	43·8		44·8		−·0013	+·0042	− 1·0	+ 6·5	−·0006
17	15·7	43·7		44·9		−·0013	+·0043	− 1·0	+ 6·6	−·0005
22	15·6	43·5		44·9		−·0013	+·0044	− 1·1	+ 6·7	−·0005
27	15·7	43·8		44·9		−·0013	+·0044	− 1·0	+ 6·7	−·0005
32	15·7	43·3		44·8		−·0014	+·0043	− 1·0	+ 6·7	−·0006
37	15·3	43·0		44·8		−·0014	+·0043	− 1·3	+ 6·7	−·0006
42	15·2	41·9		44·8		−·0016	+·0043	− 1·4	+ 6·8	−·0008
47	15·1	40·7		44·8		−·0018	+·0043	− 1·5	+ 7·2	−·0010
52	15·0	40·1		44·8		−·0020	+·0044	− 1·5	+ 7·5	−·0011
57	15·0	40·8		44·8		−·0018	+·0044	− 1·5	+ 7·3	−·0010
10 02	15·6	41·8	70·8	44·7	70·5	−·0016	+·0043	− 1·1	+ 6·8	−·0008
07	16·0	43·0		44·4		−·0014	+·0039	− 0·8	+ 6·1	−·0007
12	16·8	44·4		44·5		−·0012	+·0040	− 0·4	+ 6·1	−·0005
17	17·0	45·4		44·5		−·0010	+·0040	− 0·2	+ 5·9	−·0003
22	16·9	46·4		43·9		−·0008	+·0033	− 0·3	+ 4·8	−·0003
27	16·9	46·5		43·9		−·0008	+·0033	− 0·3	+ 4·8	−·0003
32	17·0	47·1		44·5		−·0007	+·0040	− 0·3	+ 5·4	−·0001
37	17·0	47·4		44·3		−·0007	+·0039	− 0·3	+ 5·4	−·0001
42	17·0	47·9		44·3		−·0006	+·0039	− 0·3	+ 5·3	·0000
47	17·1	48·1		44·3		−·0005	+·0039	− 0·2	+ 5·2	+·0001
52	17·4	48·2		44·3		−·0005	+·0039	− 0·1	+ 5·2	+·0001
57	17·4	48·6		44·3		−·0005	+·0039	− 0·1	+ 5·2	+·0001
11 02	17·8	48·9	70·6	44·2	70·3	−·0004	+·0038	+ 0·2	+ 4·9	+·0002
07	17·4	49·1		44·2		−·0004	+·0038	− 0·1	+ 4·9	+·0002
12	17·2	49·4		44·3		−·0003	+·0039	− 0·2	+ 4·9	+·0003
17	17·2	49·6		43·7		−·0003	+·0031	− 0·2	+ 4·0	+·0002
22	17·2	49·6		43·7		−·0003	+·0031	− 0·2	+ 4·0	+·0002
27	17·2	49·9		43·7		−·0002	+·0031	− 0·2	+ 3·9	+·0002
32	17·2	50·1		43·8		−·0002	+·0033	− 0·2	+ 4·1	+·0003
37	17·4	50·6		43·8		−·0001	+·0034	0·0	+ 4 1	+·0004

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OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours. $\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
6 11 42	17·7	50·7		43·8		−·0001	+·0034	+ 0·2	+ 4·1	+·0004
47	17·6	50·6		43·8		−·0001	+·0034	+ 0·1	+ 4·1	+·0004
52	17·4	50·4		43·8		−·0002	+·0034	0·0	+ 4·2	+·0003
57	17·6	50·9		43·8		−·0001	+·0034	+ 0·1	+ 4·1	+·0004
12 02	17·5	51·2	70·4	43·8	70·2	·0000	+·0034	+ 0·1	+ 4·0	+·0005
07	18·0	51·4		43·8		·0000	+·0034	+ 0·4	+ 4·0	+·0005
12	17·9	51·4		43·8		·0000	+·0034	+ 0·4	+ 4·0	+·0005
32	17·4	50·4		43·8(a)		−·0002	+·0035	0·0	+ 4·2	+·0003
13 02	17·5	50·0	69·9	43·9(a)	69·8	−·0004	+·0038	+ 0·1	+ 4·9	+·0002
32	17·4	50·0		44·2(a)		−·0005	+·0042	+ 0·1	+ 5·4	+·0001
14 02	17·0	50·5	69·9	44·2	69·5	−·0003	+·0043	+ 0·1	+ 5·4	+·0003

1843.
Cape of Good Hope.

February 12—13.

CAPE OF GOOD HOPE, 1843. FEBRUARY 12—13.

MEAN MONTHLY READINGS OF THE MAGNETOMETERS.

Mean Göttingen Time.	Declination.	H. F. at 70°·1.	V. F. at 69°·9.	Mean Göttingen Time.	Declination.	H. F. at 70°·1.	V. F. at 69°·9.
Hours.	Sc. Div.	Sc. Div.	Sc. Div.	Hours.	Sc. Div.	Sc. Div.	Sc. Div.
00	43·8	82·9	27·1	12	43·3	84·1	34·1
01	45·4	83·1	27·5	13	43·3	84·9	34·0
02	45·6	83·4	29·8	14	43·0	84·7	34·5
03	45·1	83·9	32·0	15	42·8	84·5	34·7
04	44·3	84·1	33·9	16	42·6	84·5	34·8
05	43·3	83·9	35·0	17	42·3	84·5	35·2
06	43·0	83·6	34·8	18	41·4	85·3	36·5
07	43·1	83·3	34·3	19	39·5	85·9	38·3
08	43·3	83·1	34·3	20	37·4	85·7	39·0
09	43·2	83·4	34·2	21	36·6	84·5	36·6
10	43·0	83·5	34·3	22	38·1	83·8	32·4
11	43·3	83·9	33·9	23	40·8	83·2	29·0

Coefficients (A), Approximate Absolute Values (B).

(A) Declin. $a = 0'·751$

H. F. $k = ·00018$, $q = ·00029$

V. F. $k = ·00015$, $q = ·00005$

(B) Approx. $\psi = 29° 05'$, $X = 4·46$, $Y = 6·00$, $\theta = -53° 14'$, $\phi = 7·50$

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours. $\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
12 22 02	40·5	84·3	69·8	25·4	69·6	·0000	−·0012	+ 1·8	− 2·0	−·0008
23 02	45·3	84·9	70·0	22·4	69·9	+·0003	−·0010	+ 3·4	− 2·2	−·0005
32	—	86·0		22·3		+·0005	−·0009	—	− 2·3	−·0004
37	47·8	86·3		22·4		+·0006	−·0008	+ 4·1	− 2·3	−·0003
42	48·0	86·7		22·5		+·0007	−·0008	+ 4·1	− 2·5	−·0003
47	48·2	87·0		22·6		+·0008	−·0007	+ 4·1	− 2·5	−·0002
52	48·3	87·0		23·1		+·0008	−·0006	+ 3·9	− 2·3	−·0001
57	48·2	86·4		23·6		+·0007	−·0005	+ 3·7	− 2·0	−·0001
13 00 02	48·1	86·0	70·3	24·5	70·1	+·0006	−·0004	+ 3·4	− 1·7	·0000
07	48·0	85·8		25·1		+·0006	−·0003	+ 3·2	− 1·5	·0000
12	47·9	85·8		25·6		+·0006	−·0002	+ 3·0	− 1·3	+·0001
17	47·9	85·9		25·8		+·0006	−·0002	+ 2·9	− 1·3	+·0001
22	47·9	86·0		26·2		+·0006	−·0001	+ 2·8	− 1·2	+·0001
27	47·9	85·9		26·4		+·0006	−·0001	+ 2·7	− 1·2	+·0001
32	47·8	85·9		27·0		+·0006	·0000	+ 2·5	− 1·0	+·0002
37	47·6	85·9		27·4		+·0006	·0000	+ 2·3	− 1·0	+·0002

(a) Observed 4m. before the times specified.

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OBSERVATIONS OF THE MAGNETOMETERS. The Declination was observed 2m. before, and the V. F. 1m. after the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta \psi$	$\Delta \theta$	$\frac{\Delta \phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
13 00 42	47·6	86·1		27·4		+·0006	·0000	+ 2·2	− 1·0	+·0002
47	47·5	86·5		27·3		+·0007	·0000	+ 2·0	− 1·2	+·0002
52	47·6	86·7		27·5		+·0007	·0000	+ 2·0	− 1·2	+·0002
57	47·4	86·8		27·7		+·0007	+·0001	+ 1·7	− 1·0	+·0003
01 02	47·3	87·2	70·3	27·6	70·2	+·0008	·0000	+ 1·5	− 1·3	+·0003
07	47·2	87·4		27·6		+·0008	·0000	+ 1·4	− 1·3	+·0003
12	47·2	87·2		27·6		+·0008	·0000	+ 1·4	− 1·3	+·0003
17	47·0	87·0		28·2		+·0008	·0000	+ 1·2	− 1·3	+·0003
22	46·7	86·4		29·1		+·0007	+·0001	+ 0·9	− 1·0	+·0003
27	46·3	86·1		29·3		+·0006	+·0001	+ 0·6	− 0·8	+·0003
32	46·2	86·3		29·7		+·0006	+·0002	+ 0·5	− 0·7	+·0003
37	46·0	86·2		30·2		+·0006	+·0002	+ 0·4	− 0·7	+·0003
42	46·0	86·6		30·2		+·0007	+·0002	+ 0·4	− 0·8	+·0004
47	46·1	—		—		—	—	+ 0·5	—	—
02 02	45·2	85·7	70·4	31·0	70·1	+·0005	+·0002	− 0·3	− 0·5	+·0003

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For Mean Monthly Readings, *see* page 167.

ST. HELENA, 1843. FEBRUARY 24.										
24 02 02	18·4	50·8	72·8	39·7	72·3	−·0007	−·0016	− 0·4	− 1·1	−·0008
32	18·4	49·1		40·0		−·0007	−·0013	− 0·2	− 0·7	−·0008
37	18·6	48·6		40·0		−·0008	−·0012	0·0	− 0·5	−·0009
42	18·6	48·4		40·0		−·0008	−·0012	+ 0·1	− 0·5	−·0009
47	18·6	48·3		40·0		−·0007	−·0012	+ 0·1	− 0·6	−·0008
52	18·8	48·1		40·0		−·0007	−·0013	+ 0·3	− 0·7	−·0008
57	18·7	48·0		40·1		−·0007	−·0012	+ 0·2	− 0·6	−·0008
03 02	18·7	47·5	73·8	40·1	72·9	−·0007	−·0012	+ 0·3	− 0·6	−·0008
07	18·6	47·3		40·1		−·0007	−·0012	+ 0·3	− 0·6	−·0008
12	18·6	47·5		40·1		−·0007	−·0013	+ 0·3	− 0·7	−·0008
17	18·9	47·7		40·1		−·0006	−·0013	+ 0·6	− 0·8	−·0007
22	18·9	47·5		40·1		−·0007	−·0013	+ 0·6	− 0·7	−·0008
27	18·9	47·4		40·1		−·0006	−·0013	+ 0·6	− 0·8	−·0007
32	18·9	47·3		40·1		−·0006	−·0014	+ 0·6	− 0·9	−·0007
37	18·3	47·3		40·1		−·0006	−·0014	+ 0·3	− 0·9	−·0007
42	18·2	47·0		40·1		−·0007	−·0014	+ 0·3	− 0·8	−·0008
47	18·0	46·0		40·1		−·0008	−·0014	+ 0·1	− 0·7	−·0009
52	17·7	45·7		40·1		−·0008	−·0016	0·0	− 0·9	−·0009
57	17·0	45·2		40·1		−·0009	−·0016	− 0·5	− 0·8	−·0010
04 02	16·9	45·0	74·2	40·1	73·6	−·0009	−·0016	− 0·5	− 0·8	−·0010
07	16·2	45·0		40·1		−·0009	−·0016	− 0·9	− 0·8	−·0010
12	16·1	44·9		40·1		−·0009	−·0016	− 0·9	− 0·8	−·0010
17	16·0	45·0		40·1		−·0009	−·0016	− 1·0	− 0·8	−·0010
22	16·0	44·7		40·1		−·0009	−·0016	− 0·9	− 0·8	−·0010
27	15·7	44·1		40·1		−·0010	−·0016	− 1·1	− 0·7	−·0011
32	15·3	44·0		40·1		−·0010	−·0016	− 1·3	− 0·7	−·0011
37	15·3	44·0		40·1		−·0010	−·0017	− 1·2	− 0·8	−·0011
42	15·8	44·2		40·1		−·0009	−·0017	− 0·8	− 0·9	−·0010
47	15·9	44·0		40·1		−·0009	−·0017	− 0·7	− 0·9	−·0010
52	15·8	43·9		40·1		−·0009	−·0017	− 0·7	− 0·9	−·0010
57	15·8	43·8		40·1		−·0009	−·0017	− 0·6	− 0·9	−·0010
05 02	16·0	43·8	74·5	40·1	73·8	−·0009	−·0017	− 0·4	− 0·9	−·0010
07	15·6	43·2		40·1		−·0010	−·0017	− 0·7	− 0·8	−·0011
12	15·7	44·1		40·1		−·0008	−·0017	− 0·6	− 0·9	−·0009
17	15·8	44·0		39·9		−·0008	−·0020	− 0·5	− 1·4	−·0010
22	16·0	43·5		39·9		−·0009	−·0021	− 0·3	− 1·4	−·0011
27	16·0	43·8		39·9		−·0008	−·0021	− 0·3	− 1·4	−·0010
32	16·3	43·2		39·9		−·0009	−·0021	− 0·1	− 1·4	−·0011
37	16·7	42·9		40·6		−·0010	−·0012	+ 0·3	− 0·2	−·0010
42	16·8	42·3		40·6		−·0011	−·0012	+ 0·4	− 0·1	−·0011
47	17·0	42·2		40·6		−·0011	−·0012	+ 0·6	− 0·1	−·0011
52	17·4	42·0		40·2		−·0011	−·0018	+ 0·8	− 0·8	−·0012
57	17·6	42·0		40·2		−·0011	−·0018	+ 1·1	− 0·8	−·0012

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OBSERVATIONS OF THE MAGNETOMETERS. The Declination was observed 2m. before, and the V. F. 1m. after the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
24 06 02	17·4	42·0	74·3	40·2	73·7	−·0011	−·0018	+ 0·9	− 0·8	−·0012
07	17·6	42·0		40·2		−·0011	−·0018	+ 1·1	− 0·8	−·0012
12	17·8	42·0		40·2		−·0011	−·0018	+ 1·2	− 0·8	−·0012
17	18·1	42·0		40·2		−·0011	−·0018	+ 1·4	− 0·8	−·0012
22	18·2	42·0		40·2		−·0011	−·0018	+ 1·4	− 0·8	−·0012
27	18·5	41·6		40·2		−·0011	−·0018	+ 1·6	− 0·8	−·0012
32	18·6	41·2		40·1		−·0012	−·0020	+ 1·7	− 0·9	−·0013
37	18·6	40·7		—		−·0013	—	+ 1·7	—	—
42	18·8	40·7		—		−·0013	—	+ 1·8	—	—
47	18·8	40·6		—		−·0013	—	+ 1·8	—	—
52	18·7	40·0		39·7		−·0014	−·0023	+ 1·7	− 0·9	−·0015
57	18·6	39·8		39·7		−·0014	−·0023	+ 1·6	− 0·9	−·0015
07 02	18·1	39·2	73·8	39·7	73·5	−·0016	−·0023	+ 1·3	− 0·8	−·0017
07	17·8	39·0		39·7		−·0016	−·0023	+ 1·0	− 0·8	−·0017
12	17·7	38·0		40·2		−·0018	−·0017	+ 0·9	+ 0·1	−·0018
17	17·0	37·2		40·2		−·0019	−·0017	+ 0·4	+ 0·2	−·0019
22	17·0	36·9		40·2		−·0020	−·0017	+ 0·4	+ 0·2	−·0020
27	16·8	36·9		40·2		−·0020	−·0017	+ 0·1	+ 0·2	−·0020
32	16·9	36·7		40·2		−·0020	−·0017	+ 0·2	+ 0·2	−·0020
37	16·9	37·1		40·2		−·0020	−·0017	+ 0·1	+ 0·2	−·0020
42	16·5	35·7		40·2		−·0022	−·0017	− 0·1	+ 0·6	−·0021
47	16·7	35·1		40·2		−·0023	−·0017	− 0·1	+ 0·7	−·0022
52	16·5	35·0		40·2		−·0024	−·0017	− 0·2	+ 0·8	−·0023
57	16·5	35·2		40·2		−·0023	−·0017	− 0·3	+ 0·7	−·0022
08 02	16·6	36·0	73·4	40·1	73·4	−·0022	−·0018	− 0·2	+ 0·5	−·0021
07	16·7	36·4		40·1		−·0021	−·0018	− 0·1	+ 0·2	−·0021
12	16·4	36·7		40·1		−·0020	−·0018	− 0·4	+ 0·2	−·0020
17	16·5	36·7		40·1		−·0021	−·0018	− 0·3	+ 0·2	−·0021
22	16·4	36·8		40·1		−·0020	−·0018	− 0·4	+ 0·2	−·0020
27	16·4	37·0		40·1		−·0020	−·0018	− 0·4	+ 0·2	−·0020
32	16·5	37·2		40·1		−·0020	−·0018	− 0·4	+ 0·2	−·0020
37	16·5	37·5		40·1		−·0019	−·0018	− 0·4	+ 0·1	−·0019
42	16·6	37·9		40·1		−·0018	−·0018	− 0·3	0·0	−·0018
47	16·5	38·2		40·5		−·0018	−·0013	− 0·4	+ 0·6	−·0017
52	16·4	38·7		40·5		−·0017	−·0013	− 0·5	+ 0·5	−·0016
57	16·3	39·2		40·5		−·0016	−·0013	− 0·6	+ 0·2	−·0016
09 02	16·2	39·7	73·0	40·5	73·0	−·0015	−·0013	− 0·6	+ 0·2	−·0015
07	16·0	39·9		40·5		−·0015	−·0013	− 0·8	+ 0·2	−·0015
12	15·9	40·0		40·5		−·0014	−·0013	− 0·8	+ 0·1	−·0014
17	15·9	40·0		40·4		−·0014	−·0014	− 0·8	0·0	−·0014
22	15·9	40·0		40·4		−·0014	−·0013	− 0·8	+ 0·1	−·0014
27	15·8	40·0		40·4		−·0014	−·0013	− 0·9	+ 0·1	−·0014
32	15·6	40·1		40·4		−·0014	−·0013	− 1·1	+ 0·1	−·0014
37	15·3	40·1		40·3		−·0014	−·0014	− 1·3	0·0	−·0014
42	15·3	40·2		40·3		−·0014	−·0014	− 1·3	0·0	−·0014
47	15·4	40·6		40·3		−·0013	−·0014	− 1·3	− 0·1	−·0013
52	15·6	40·9		40·2		−·0012	−·0014	− 1·1	− 0·2	−·0012
57	15·5	40·9		40·2		−·0012	−·0014	− 1·2	− 0·2	−·0012
10 02	15·4	40·8	72·9	40·2	72·8	−·0012	−·0017	− 1·3	− 0·6	−·0013

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Cape of Good Hope.

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For Mean Monthly Readings, *see* page 170.

CAPE OF GOOD HOPE, 1843. FEBRUARY 24.										
24 07 02	44·2	70·0	73·5	40·4	72·8	−·0014	+·0011	+ 0·8	+ 4·1	+·0002
07	—	69·1		40·4		−·0016	+·0011	—	+ 4·4	−·0001
12	44·5	68·0		41·1		−·0018	+·0012	+ 1·1	+ 4·9	−·0001
17	44·5	66·8		41·8		−·0020	+·0013	+ 1·1	+ 5·4	−·0001
22	44·2	66·1		42·3		−·0021	+·0014	+ 0·8	+ 5·8	−·0001
27	44·3	66·0		42·3		−·0021	+·0014	+ 0·8	+ 5·8	−·0001
32	44·2	65·8		42·7		−·0021	+·0014	+ 0·8	+ 5·8	−·0001
37	44·2	66·8		42·7		−·0019	+·0014	+ 0·8	+ 5·4	−·0002
42	44·0	65·7		42·2		−·0021	+·0014	+ 0·6	+ 5·8	−·0001

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Cape of Good Hope.
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OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
24 07 47	44·5	64·4		42·7		−·0023	+·0014	+ 1·0	+ 6·1	−·0001
52	44·2	64·2		43·1		−·0024	+·0015	+ 0·7	+ 6·4	−·0001
57	44·0	64·8		42·7		−·0023	+·0014	+ 0·5	+ 6·1	−·0001
08 02	44·2	65·6	73·7	42·1	73·1	−·0021	+·0013	+ 0·7	+ 5·6	+·0001
07	44·2	66·0		42·1		−·0020	+·0013	+ 0·7	+ 5·4	+·0001
12	44·2	66·0		41·7		−·0021	+·0013	+ 0·7	+ 5·6	+·0001
17	44·2	65·9		41·4		−·0021	+·0012	+ 0·7	+ 5·4	·0000
22	44·2	66·0		41·7		−·0021	+·0013	+ 0·7	+ 5·6	+·0001
27	43·9	66·3		41·4		−·0020	+·0012	+ 0·5	+ 5·3	+·0001
32	43·9	66·8		41·2		−·0019	+·0012	+ 0·5	+ 5·1	+·0001
37	43·6	67·2		40·7		−·0019	+·0011	+ 0·2	+ 4·9	·0000
42	43·5	67·9		40·4		−·0017	+·0011	+ 0·2	+ 4·6	+·0001
47	43·4	68·5		40·0		−·0016	+·0010	+ 0·2	+ 4·3	+·0001
52	43·3	69·1		39·5		−·0015	+·0010	+ 0·1	+ 4·1	+·0001
57	43·2	69·8		39·0		−·0014	+·0009	0·0	+ 3·8	+·0001
09 02	43·2	70·2	73·7	38·8	73·3	−·0013	+·0009	0·0	+ 3·6	+·0001
07	43·0	70·8		38·5		−·0012	+·0008	− 0·2	+ 3·3	+·0001
12	43·0	70·9		38·5		−·0012	+·0008	− 0·2	+ 3·3	+·0001
17	43·0	71·0		38·5		−·0012	+·0008	− 0·2	+ 3·3	+·0001
22	42·9	70·9		38·5		−·0012	+·0008	− 0·2	+ 3·3	+·0001
27	42·7	70·9		38·5		−·0012	+·0008	− 0·3	+ 3·3	+·0001
32	42·6	71·0		38·8		−·0012	+·0009	− 0·4	+ 3·5	+·0002
37	42·5	71·0		38·6		−·0012	+·0008	− 0·5	+ 3·3	+·0001
42	42·5	71·1		38·5		−·0012	+·0008	− 0·5	+ 3·3	+·0001
47	42·6	71·4		38·1		−·0012	+·0007	− 0·4	+ 3·1	·0000
52	42·7	71·8		37·9		−·0011	+·0007	− 0·2	+ 3·0	+·0001
57	42·5	71·9		37·9		−·0011	+·0007	− 0·4	+ 3·0	+·0001
10 02	43·0	71·8	73·6	37·9	73·3	−·0011	+·0007	0·0	+ 3·0	+·0001

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MEAN MONTHLY READINGS OF THE MAGNETOMETERS.

Mean Göttingen Time.	Declination.	H. F.	V. F.	Mean Göttingen Time.	Declination.	H. F.	V. F.
Hours.	Sc. Div.	Sc. Div.	Sc. Div.	Hours.	Sc. Div.	Sc. Div.	Sc. Div.
00	130·5	— (a)	—	12	127·5	—	—
01	131·1	—	—	13	129·0	—	—
02	132·2	—	—	14	129·4	—	—
03	131·5	—	—	15	128·7	—	—
04	129·5	—	—	16	129·7	—	—
05	126·3	—	—	17	130·6	—	—
06	124·7	—	—	18	129·3	—	—
07	123·5	—	—	19	127·4	—	—
08	123·6	—	—	20	129·0	—	—
09	124·6	—	—	21	127·7	—	—
10	125·4	—	—	22	129·4	—	—
11	127·1	—	—	23	130·1	—	—

Coefficients (A), Approximate Absolute Values (B).

(A)
- Declin. α = 0′·721
- H. F. k = —, q = —
- V. F. k = —, q = —

(B) Approx.
- ψ = − 1° 21′
- X = —
- Y = —
- θ = —
- ϕ = —

(a) H. F. Magnetometer not in adjustment.

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OBSERVATIONS OF THE MAGNETOMETERS.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
24 10 00	126·2	—	—	—	—	—	—	+ 0·6	—	—
05	126·6	—		—		—	—	+ 0·8	—	—
10	126·7	—		—		—	—	+ 0·7	—	—
15	126·7	—		—		—	—	+ 0·6	—	—
20	127·0	—		—		—	—	+ 0·7	—	—
25	127·0	—		—		—	—	+ 0·6	—	—
30	127·0	—		—		—	—	+ 0·6	—	—
35	126·9	—		—		—	—	+ 0·4	—	—
40	127·0	—		—		—	—	+ 0·4	—	—
45	126·8	—		—		—	—	+ 0·1	—	—
50	126·2	—		—		—	—	− 0·4	—	—
55	126·3	—		—		—	—	− 0·5	—	—
11 00	126·5	—	—	—	—	—	—	− 0·4	—	—
05	126·2	—		—		—	—	− 0·6	—	—
10	126·1	—		—		—	—	− 0·8	—	—
15	126·1	—		—		—	—	− 0·8	—	—
20	126·0	—		—		—	—	− 0·8	—	—
25	128·5	—		—		—	—	+ 0·8	—	—
30	131·4	—		—		—	—	+ 3·0	—	—
35	132·0	—		—		—	—	+ 3·4	—	—
40	131·4	—		—		—	—	+ 2·9	—	—
45	131·0	—		—		—	—	+ 2·6	—	—
50	130·5	—		—		—	—	+ 2·3	—	—
55	131·0	—		—		—	—	+ 2·6	—	—
12 00	130·7	—	—	—	—	—	—	+ 2·3	—	—
05	134·5	—		—		—	—	+ 4·9	—	—
10	138·4	—		—		—	—	+ 7·6	—	—
15	146·5	—		—		—	—	+13·4	—	—
20	155·8	—		—		—	—	+20·0	—	—
25	156·0	—		—		—	—	+20·0	—	—
30	154·0	—		—		—	—	+18·5	—	—
35	150·8	—		—		—	—	+16·1	—	—
40	147·0	—		—		—	—	+13·4	—	—
45	145·7	—		—		—	—	+12·3	—	—
50	143·2	—		—		—	—	+10·4	—	—
55	140·0	—		—		—	—	+ 8·0	—	—
13 00	138·8	—	—	—	—	—	—	+ 7·1	—	—
05	138·0	—		—		—	—	+ 6·5	—	—
10	137·6	—		—		—	—	+ 6·2	—	—
15	136·0	—		—		—	—	+ 4·9	—	—
20	133·0	—		—		—	—	+ 2·8	—	—
25	132·0	—		—		—	—	+ 2·0	—	—
30	132·0	—		—		—	—	+ 2·0	—	—
35	131·0	—		—		—	—	+ 1·3	—	—
40	129·9	—		—		—	—	+ 0·4	—	—
45	129·9	—		—		—	—	+ 0·4	—	—
50	129·7	—		—		—	—	+ 0·3	—	—
55	129·3	—		—		—	—	− 0·1	—	—
14 00	129·0	—	—	—	—	—	—	− 0·3	—	—
05	129·6	—		—		—	—	+ 0·2	—	—
10	130·0	—		—		—	—	+ 0·5	—	—
15	130·1	—		—		—	—	+ 0·6	—	—
20	131·0	—		—		—	—	+ 1·3	—	—
25	130·6	—		—		—	—	+ 1·1	—	—
30	130·0	—		—		—	—	+ 0·6	—	—
35	130·0	—		—		—	—	+ 0·7	—	—
40	129·4	—		—		—	—	+ 0·4	—	—
45	129·5	—		—		—	—	+ 0·4	—	—
50	129·4	—		—		—	—	+ 0·4	—	—
55	129·0	—		—		—	—	+ 0·1	—	—
15 00	129·0	—	—	—	—	—	—	+ 0·2	—	—
05	128·7	—		—		—	—	− 0·1	—	—

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OBSERVATIONS OF THE MAGNETOMETERS.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta \psi$	$\Delta \theta$	$\frac{\Delta \phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
24 1[illegible]	128·9	—		—		—	—	0·0	—	—
15	129·0	—		—		—	—	+ 0·1	—	—
20	129·8	—		—		—	—	+ 0·6	—	—
25	130·0	—		—		—	—	+ 0·6	—	—
30	129·7	—		—		—	—	+ 0·4	—	—
35	130·0	—		—		—	—	+ 0·5	—	—
40	129·9	—		—		—	—	+ 0·4	—	—
45	130·4	—		—		—	—	+ 0·7	—	—
50	130·0	—		—		—	—	+ 0·4	—	—
55	131·0	—		—		—	—	+ 1·0	—	—
16 00	132·0	—		—		—	—	+ 1·6	—	—
05	132·0	—		—		—	—	+ 1·5	—	—
10	131·9	—		—		—	—	+ 1·4	—	—
15	131·0	—		—		—	—	+ 0·8	—	—
20	129·9	—		—		—	—	− 0·1	—	—
25	128·5	—		—		—	—	− 1·1	—	—
30	128·5	—		—		—	—	− 1·2	—	—
35	128·8	—		—		—	—	− 1·0	—	—
40	130·4	—		—		—	—	+ 0·1	—	—
45	138·1	—		—		—	—	+ 5·5	—	—
50	146·2	—		—		—	—	+11·3	—	—
55	154·1	—		—		—	—	+17·0	—	—
17 00	157·4	—		—		—	—	+19·3	—	—
05	154·0	—		—		—	—	+17·0	—	—
10	143·6	—		—		—	—	+ 9·5	—	—
15	130·3	—		—		—	—	0·0	—	—
20	122·6	—		—		—	—	− 5·4	—	—
25	121·2	—		—		—	—	− 6·4	—	—
30	120·8	—		—		—	—	− 6·6	—	—
35	123·5	—		—		—	—	− 4·5	—	—
40	128·3	—		—		—	—	− 1·0	—	—
45	134·4	—		—		—	—	+ 3·5	—	—
50	138·8	—		—		—	—	+ 6·7	—	—
55	140·9	—		—		—	—	+ 8·3	—	—
18 00	140·6	—		—		—	—	+ 8·1	—	—
05	136·6	—		—		—	—	+ 5·4	—	—
10	133·1	—		—		—	—	+ 3·0	—	—
15	131·0	—		—		—	—	+ 1·5	—	—
20	127·4	—		—		—	—	− 0·9	—	—
25	127·6	—		—		—	—	− 0·6	—	—
30	128·1	—		—		—	—	− 0·2	—	—
35	128·5	—		—		—	—	+ 0·2	—	—
40	127·5	—		—		—	—	− 0·4	—	—
45	126·8	—		—		—	—	− 0·8	—	—
50	126·9	—		—		—	—	− 0·6	—	—
55	127·0	—		—		—	—	− 0·4	—	—
19 00	127·0	—		—		—	—	− 0·3	—	—
05	127·4	—		—		—	—	− 0·1	—	—
10	127·4	—		—		—	—	− 0·2	—	—
15	127·5	—		—		—	—	− 0·2	—	—
20	127·2	—		—		—	—	− 0·5	—	—
25	127·0	—		—		—	—	− 0·8	—	—
30	127·5	—		—		—	—	− 0·5	—	—
35	127·0	—		—		—	—	− 0·9	—	—
40	127·0	—		—		—	—	− 1·1	—	—
45	127·0	—		—		—	—	− 1·1	—	—
50	127·0	—		—		—	—	− 1·2	—	—
55	127·3	—		—		—	—	− 1·1	—	—
20 00	127·5	—		—		—	—	− 1·1	—	—
05	128·0	—		—		—	—	− 0·6	—	—
10	127·9	—		—		—	—	− 0·6	—	—
15	127·6	—		—		—	—	− 0·8	—	—

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OBSERVATIONS OF THE MAGNETOMETERS.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta \psi$	$\Delta \theta$	$\frac{\Delta \phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
24 20 20	127·2	—		—		—	—	− 1·0	—	—
25	127·2	—		—		—	—	− 0·9	—	—
30	127·5	—		—		—	—	− 0·6	—	—
35	128·0	—		—		—	—	− 0·1	—	—
40	128·0	—		—		—	—	− 0·1	—	—
45	128·0	—		—		—	—	0·0	—	—
50	128·0	—		—		—	—	+ 0·1	—	—
55	128·0	—		—		—	—	+ 0·1	—	—
21 00	127·8	—		—		—	—	+ 0·1	—	—
05	127·7	—		—		—	—	− 0·1	—	—
10	128·0	—		—		—	—	0·0	—	—
15	128·0	—		—		—	—	− 0.1	—	—
20	128·0	—		—		—	—	− 0·2	—	—
25	128·0	—		—		—	—	− 0·3	—	—
30	128·0	—		—		—	—	− 0·4	—	—
35	128·0	—		—		—	—	− 0·5	—	—
40	128·0	—		—		—	—	− 0·6	—	—
45	128·0	—		—		—	—	− 0·7	—	—
50	128·0	—		—		—	—	− 0·8	—	—
55	128·0	—		—		—	—	− 0·9	—	—
22 00	128·0	—		—		—	—	− 1·0	—	—
05	127·3	—		—		—	—	− 1·5	—	—
10	127·9	—		—		—	—	− 1·1	—	—
15	127·9	—		—		—	—	− 1·2	—	—
20	128·0	—		—		—	—	− 1·1	—	—
25	128·0	—		—		—	—	− 1·2	—	—
30	128·0	—		—		—	—	− 1·2	—	—
35	127·7	—		—		—	—	− 1·5	—	—
40	127·6	—		—		—	—	− 1·6	—	—
45	127·0	—		—		—	—	− 2·0	—	—
50	128·1	—		—		—	—	− 1·3	—	—
55	127·9	—		—		—	—	− 1·5	—	—
23 00	128·2	—		—		—	—	− 1·3	—	—
05	128·0	—		—		—	—	− 1·5	—	—
10	127·4	—		—		—	—	− 2·0	—	—
15	128·0	—		—		—	—	− 1·5	—	—
20	128·0	—		—		—	—	− 1·5	—	—
25	128·0	—		—		—	—	− 1·6	—	—
30	128·1	—		—		—	—	− 1·5	—	—
35	128·4	—		—		—	—	− 1·3	—	—
40	128·3	—		—		—	—	− 1·5	—	—
45	128·9	—		—		—	—	− 1·1	—	—
50	128·0	—		—		—	—	− 1·7	—	—
55	127·2	—		—		—	—	− 2·4	—	—
25 00 00	126·8	—		—		—	—	− 2·7	—	—
05	126·7	—		—		—	—	− 2·8	—	—
10	126·0	—		—		—	—	− 3·3	—	—
15	126·0	—		—		—	—	− 3·4	—	—
20	126·2	—		—		—	—	− 3·3	—	—
25	126·0	—		—		—	—	− 3·5	—	—
30	128·1	—		—		—	—	− 1·9	—	—
35	127·1	—		—		—	—	− 2·8	—	—
40	127·6	—		—		—	—	− 2·4	—	—
45	128·9	—		—		—	—	− 1·5	—	—
50	128·8	—		—		—	—	− 1·5	—	—
55	128·5	—		—		—	—	− 1·8	—	—
01 00	129·0	—		—		—	—	− 1·5	—	—
05	128·7	—		—		—	—	− 1·8	—	—
10	129·6	—		—		—	—	− 1·2	—	—
15	129·7	—		—		—	—	− 1·2	—	—
20	129·6	—		—		—	—	− 1·3	—	—
25	129·8	—		—		—	—	− 1·3	—	—

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Toronto.

February 25.

OBSERVATIONS OF THE MAGNETOMETERS.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta \psi$	$\Delta \theta$	$\frac{\Delta \phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
25 01 30	129·7	—		—		—	—	− 1·3	—	—
35	130·0	—		—		—	—	− 1·2	—	—
40	130·3	—		—		—	—	− 1·1	—	—
45	130·5	—		—		—	—	− 1·0	—	—
50	131·2	—		—		—	—	− 0·6	—	—
55	131·8	—		—		—	—	− 0·2	—	—
02 00	131·6	—	—	—	—	—	—	− 0·4	—	—
05	130·9	—		—		—	—	− 0·8	—	—
10	131·0	—		—		—	—	− 0·8	—	—
15	130·4	—		—		—	—	− 1·1	—	—
20	130·2	—		—		—	—	− 1·3	—	—
25	130·4	—		—		—	—	− 1·1	—	—
30	130·7	—		—		—	—	− 0·8	—	—
35	130·6	—		—		—	—	− 0·8	—	—
40	130·8	—		—		—	—	− 0·6	—	—
45	130·0	—		—		—	—	− 1·2	—	—
50	129·5	—		—		—	—	− 1·5	—	—
55	129·9	—		—		—	—	− 1·2	—	—
03 00	129·9	—	—	—	—	—	—	− 1·1	—	—
05	129·2	—		—		—	—	− 1·5	—	—
10	129·5	—		—		—	—	− 1·2	—	—
15	129·0	—		—		—	—	− 1·4	—	—
20	129·2	—		—		—	—	− 1·1	—	—
25	128·8	—		—		—	—	− 1·3	—	—
30	129·0	—		—		—	—	− 1·1	—	—
35	128·5	—		—		—	—	− 1·3	—	—
40	127·9	—		—		—	—	− 1·6	—	—
45	127·7	—		—		—	—	− 1·6	—	—
50	128·0	—		—		—	—	− 1·3	—	—
55	127·6	—		—		—	—	− 1·5	—	—
04 00	127·4	—	—	—	—	—	—	− 1·5	—	—
05	127·1	—		—		—	—	− 1·5	—	—
10	126·5	—		—		—	—	− 1·8	—	—
15	127·7	—		—		—	—	− 0·7	—	—
20	125·4	—		—		—	—	− 2·2	—	—
25	125·8	—		—		—	—	− 1·7	—	—
30	126·8	—		—		—	—	− 0·8	—	—
35	126·5	—		—		—	—	− 0·8	—	—
40	126·5	—		—		—	—	− 0·7	—	—
45	125·9	—		—		—	—	− 0·8	—	—
50	125·3	—		—		—	—	− 1·1	—	—
55	125·4	—		—		—	—	− 0·8	—	—
05 00	124·7	—	—	—	—	—	—	− 1·1	—	—
05	124·6	—		—		—	—	− 1·1	—	—
10	125·0	—		—		—	—	− 0·7	—	—
15	123·7	—		—		—	—	− 1·5	—	—
20	124·3	—		—		—	—	− 1·1	—	—
25	124·8	—		—		—	—	− 0·6	—	—
30	124·6	—		—		—	—	− 0·6	—	—
35	123·9	—		—		—	—	− 1·1	—	—
40	124·3	—		—		—	—	− 0·6	—	—
45	124·4	—		—		—	—	− 0·5	—	—
50	124·0	—		—		—	—	− 0·7	—	—
55	123·8	—		—		—	—	− 0·7	—	—
06 00	123·7	—	—	—	—	—	—	− 0·7	—	—
05	124·0	—		—		—	—	− 0·4	—	—
10	124·0	—		—		—	—	− 0·4	—	—
15	123·9	—		—		—	—	− 0·4	—	—
20	123·9	—		—		—	—	− 0·3	—	—
25	124·0	—		—		—	—	− 0·1	—	—
30	124·0	—		—		—	—	− 0·1	—	—
35	123·5	—		—		—	—	− 0·4	—	—

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OBSERVATIONS OF THE MAGNETOMETERS.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. a	Sc. Div.	Therm. o	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
25 06 40	123·5	—		—		—	—	− 0·3	—	—
45	123·5	—		—		—	—	− 0·2	—	—
50	123·7	—		—		—	—	0·0	—	—
55	123·3	—		—		—	—	− 0·2	—	—
07 00	123·7	—	—	—	—	—	—	+ 0·1	—	—
05	123·8	—		—		—	—	+ 0·2	—	—
10	123·6	—		—		—	—	+ 0·1	—	—
15	123·7	—		—		—	—	+ 0·1	—	—
20	123·8	—		—		—	—	+ 0·2	—	—
25	123·2	—		—		—	—	+ 0·2	—	—
30	124·0	—		—		—	—	+ 0·4	—	—
35	124·6	—		—		—	—	+ 0·7	—	—
40	124·1	—		—		—	—	+ 0·4	—	—
45	124·1	—		—		—	—	+ 0·4	—	—
50	125·0	—		—		—	—	+ 1·0	—	—
55	124·7	—		—		—	—	+ 0·8	—	—
08 00	124·5	—	—	—	—	—	—	+ 0·6	—	—
05	124·3	—		—		—	—	+ 0·4	—	—
10	124·7	—		—		—	—	+ 0·6	—	—
15	124·5	—		—		—	—	+ 0·5	—	—
20	124·7	—		—		—	—	+ 0·6	—	—
25	126·1	—		—		—	—	+ 1·5	—	—
30	124·9	—		—		—	—	+ 0·6	—	—
35	125·0	—		—		—	—	+ 0·6	—	—
40	125·0	—		—		—	—	+ 0·5	—	—
45	125·1	—		—		—	—	+ 0·6	—	—
50	125·5	—		—		—	—	+ 0·8	—	—
55	125·6	—		—		—	—	+ 0·8	—	—
09 00	125·6	—	—	—	—	—	—	+ 0·7	—	—
05	125·6	—		—		—	—	+ 0·6	—	—
10	125·3	—		—		—	—	+ 0·4	—	—
15	125·1	—		—		—	—	+ 0·2	—	—
20	125·0	—		—		—	—	+ 0·1	—	—
25	125·1	—		—		—	—	+ 0·1	—	—
30	125·2	—		—		—	—	+ 0·1	—	—
35	126·0	—		—		—	—	+ 0·6	—	—
40	126·0	—		—		—	—	+ 0·6	—	—
45	125·9	—		—		—	—	+ 0·5	—	—
50	126·1	—		—		—	—	+ 0·6	—	—
55	125·8	—		—		—	—	+ 0·4	—	—

1843. Van Diemen Island.

February.

VAN DIEMEN ISLAND, 1843. FEBRUARY 24—25.

MEAN MONTHLY READINGS OF THE MAGNETOMETERS.

Mean Göttingen Time.	Declination.	H. F. at 66°·0.	V. F. at 64°·4.	Mean Göttingen Time.	Declination.	H. F. at 66°·0.	V. F. at 64°·4.
Hours.	Sc. Div.	Sc. Div.	Sc. Div.	Hours.	Sc. Div.	Sc. Div.	Sc. Div.
00	83·2	69·8	41·9	12	76·3	60·6	50·5
01	82·4	69·6	39·2	13	78·7	58·5	54·8
02	81·5	69·4	37·6	14	82·4	57·9	60·0
03	81·6	68·6	35·7	15	86·1	60·4	61·0
04	82·1	68·8	36·1	16	89·5	63·2	60·0
05	82·7	68·5	35·0	17	91·1	67·0	57·5
06	83·3	68·5	35·8	18	90·5	69·9	54·4
07	82·9	68·2	37·0	19	89·0	71·7	50·4
08	82·5	68·5	38·3	20	87·2	71·9	46·0
09	81·1	68·0	40·5	21	85·4	70·8	43·6
10	79·2	66·9	42·5	22	84·5	71·1	41·5
11	77·1	64·4	46·9	23	84·1	69·8	40·8

Coefficients (A), Approximate Absolute Values (B).

(A)
- Declin. a = 0′·71
- H. F. k = ·000120, q = ·000234
- V. F. k = ·000040, q = ·00021

(B) Approx.
- ψ = − 9° 55′
- X = 4·51
- Y = 12·86
- θ = − 70° 37′
- ϕ = 13·62

1843.
Van Diemen Island.

February 24.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 2m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
						$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm.	Sc. Div.	Therm.	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
24 10 02	80·3	52·2	69·2	41·6	67·4	−·0011	+·0006	+ 0·8	+ 1·8	+·0004
08	80·3	—		42·0		—	+·0006	+ 0·9	—	—
14	80·0	51·9		42·0		−·0010	+·0006	+ 0·9	+ 1·7	+·0004
20	80·2	52·3		42·0		−·0009	+·0006	+ 1·1	+ 1·6	+·0004
26	80·8	52·0		42·0		−·0009	+·0005	+ 1·7	+ 1·5	+·0004
32	79·8	52·6		40·9		−·0008	+·0005	+ 1·2	+ 1·4	+·0004
38	79·0	52·7		39·7		−·0008	+·0004	+ 0·8	+ 1·3	+·0003
44	78·5	51·9		39·9		−·0008	+·0004	+ 0·6	+ 1·3	+·0003
50	77·7	52·2		39·9		−·0008	+·0004	+ 0·1	+ 1·3	+·0003
56	78·8	51·8		40·9		−·0008	+·0004	+ 1·1	+ 1·3	+·0003
11 02	78·8	52·1	69·2	40·9	67·5	−·0007	+·0004	+ 1·2	+ 1·2	+·0003
08	79·1	52·4		40·0		−·0006	+·0004	+ 1·5	+ 1·1	+·0003
14	78·5	50·9		39·4		−·0007	+·0003	+ 1·1	+ 1·1	+·0002
20	77·9	50·2		39·4		−·0008	+·0003	+ 0·7	+ 1·2	+·0002
26	76·9	49·6		39·6		−·0008	+·0003	+ 0·1	+ 1·2	+·0002
32	76·5	48·9		40·2		−·0008	+·0003	− 0·1	+ 1·2	+·0002
38	77·3	48·7		40·9		−·0008	+·0003	+ 0·5	+ 1·2	+·0002
44	77·3	48·3		41·8		−·0008	+·0003	+ 0·6	+ 1·3	+·0003
50	77·7	47·3		42·2		−·0009	+·0004	+ 0·9	+ 1·4	+·0003
56	78·1	47·5		43·9		−·0008	+·0004	+ 1·2	+ 1·3	+·0003
12 02	—	47·5	69·4	44·6	67·6	−·0008	+·0004	—	+ 1·3	+·0003
08	79·7	45·1		44·6		−·0011	+·0004	+ 2·3	+ 1·6	+·0002
14	77·7	44·8		44·8		−·0011	+·0004	+ 0·6	+ 1·6	+·0002
20	79·2	44·5		45·8		−·0011	+·0004	+ 1·6	+ 1·6	+·0002
26	79·2	45·1		46·9		−·0010	+·0004	+ 1·4	+ 1·5	+·0003
32	79·6	45·2		46·0		−·0009	+·0004	+ 1·5	+ 1·4	+·0003
38	79·8	44·7		45·4		−·0009	+·0004	+ 1·5	+ 1·4	+·0003
44	80·3	45·1		44·9		−·0008	+·0003	+ 1·6	+ 1·2	+·0002
50	79·3	45·4		44·5		−·0008	+·0003	+ 0·8	+ 1·2	+·0002
56	80·1	45·9		44·7		−·0007	+·0003	+ 1·1	+ 1·1	+·0002
13 02	80·9	43·7	69·4	45·6	67·6	−·0010	+·0003	+ 1·6	+ 1·4	+·0002
08	81·4	44·4		45·9		−·0008	+·0003	+ 1·6	+ 1·2	+·0002
14	82·8	43·8		46·4		−·0009	+·0003	+ 2·4	+ 1·3	+·0002
20	84·0	45·7		45·8		−·0007	+·0002	+ 3·0	+ 1·0	+·0001
26	84·2	46·4		44·4		−·0006	+·0002	+ 2·8	+ 0·9	+·0001
32	84·4	47·0		44·0		−·0006	+·0001	+ 2·7	+ 0·8	·0000
38	84·7	46·9		44·0		−·0006	+·0001	+ 2·7	+ 0·8	·0000
44	84·9	47·1		43·8		−·0005	+·0001	+ 2·6	+ 0·7	·0000
50	85·7	47·5		43·5		−·0005	·0000	+ 2·8	+ 0·5	−·0001
56	85·5	49·2		42·7		−·0002	·0000	+ 2·5	+ 0·2	·0000
14 02	86·4	50·0	69·4	40·9	67·6	−·0001	−·0001	+ 2·8	0·0	−·0001
08	86·7	49·6		40·7		−·0002	−·0001	+ 2·8	+ 0·1	−·0001
14	86·9	48·9		40·0		−·0004	−·0001	+ 2·7	+ 0·3	−·0001
20	86·8	49·5		39·6		−·0003	−·0002	+ 2·3	+ 0·1	−·0002
26	87·3	49·9		40·0		−·0003	−·0001	+ 2·4	+ 0·2	−·0001
32	87·0	50·4		39·1		−·0003	−·0002	+ 1·9	+ 0·1	−·0002
38	87·5	51·5		38·1		−·0002	−·0002	+ 2·1	0·0	−·0002
44	87·6	51·2		37·4		−·0003	−·0002	+ 1·9	+ 0·1	−·0002
50	88·0	53·6		37·1		−·0001	−·0003	+ 1·9	− 0·2	−·0001
56	88·4	52·2		36·8		−·0003	−·0003	+ 1·9	0·0	−·0003
15 02	89·0	53·9	68·8	37·0	67·5	−·0001	−·0003	+ 2·1	− 0·2	−·0003
08	89·8	54·0		36·4		−·0001	−·0003	+ 2·4	− 0·2	−·0003
14	90·4	56·0		37·0		+·0001	−·0003	+ 2·6	− 0·4	−·0003
20	90·5	56·2		37·2		+·0001	−·0003	+ 2·4	− 0·4	−·0003
26	91·6	56·0		37·6		·0000	−·0002	+ 2·9	− 0·2	−·0002
32	91·5	53·6		38·9		−·0003	−·0002	+ 2·6	+ 0·1	−·0002
38	91·9	52·6		40·2		−·0005	−·0002	+ 2·7	+ 0·3	−·0002
44	92·9	55·0		40·2		−·0002	−·0002	+ 3·2	0·0	−·0002
50	93·1	54·0		40·0		−·0004	−·0002	+ 3·1	+ 0·2	−·0002
56	93·0	55·0		40·4		−·0003	−·0001	+ 2·7	+ 0·2	−·0001
16 02	93·6	55·0	68·8	41·1	67·4	−·0003	−·0001	+ 2·9	+ 0·2	−·0001
08	93·9	56·1		40·4		−·0002	−·0001	+ 3·0	+ 0·1	−·0001

OBSERVATIONS OF THE MAGNETOMETERS. The Declination was observed 2m. before, and the V. F. 2m. after the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta \psi$	$\Delta \theta$	$\frac{\Delta \phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
24 16 14	94·0	56·0		40·4		−·0003	−·0001	+ 3·0	+ 0·2	−·0001
20	93·9	55·6		41·7		−·0004	−·0001	+ 2·8	+ 0·3	−·0001
26	93·7	55·3		42·2		−·0005	·0000	+ 2·6	+ 0·5	−·0001
32	94·2	56·6		43·0		−·0004	·0000	+ 2·8	+ 0·4	·0000
38	94·5	56·5		43·0		−·0005	·0000	+ 2·8	+ 0·5	−·0001
44	94·5	57·2		43·4		−·0005	·0000	+ 2·8	+ 0·5	−·0001
50	94·6	56·4		44·1		−·0006	·0000	+ 2·7	+ 0·7	−·0001
56	95·0	56·8		45·5		−·0006	·0000	+ 2·9	+ 0·7	−·0001
17 02	95·1	56·3	68·6	46·2	67·0	−·0007	+·0001	+ 2·8	+ 0·9	·0000
08	96·1	55·4		47·2		−·0008	+·0001	+ 3·6	+ 1·0	·0000
14	95·3	52·2		49·3		−·0013	+·0002	+ 3·1	+ 1·6	·0000
20	95·5	51·3		50·1		−·0014	+·0003	+ 3·3	+ 1·8	+·0001
26	95·3	52·6		49·9		−·0013	+·0003	+ 3·1	+ 1·7	+·0001
32	94·8	55·7		48·6		−·0009	+·0002	+ 2·8	+ 1·2	+·0001
38	94·7	58·4		45·9		−·0007	+·0002	+ 2·8	+ 1·0	+·0001
44	94·8	60·6		43·2		−·0005	+·0001	+ 2·9	+ 0·7	·0000
50	94·6	59·6		41·3		−·0006	·0000	+ 2·8	+ 0·7	−·0001
56	93·9	59·6		40·9		−·0006	·0000	+ 2·3	+ 0·7	−·0001
18 02	93·5	59·1	68·4	40·4	67·2	−·0007	·0000	+ 2·1	+ 0·8	−·0001
08	93·2	59·2		39·9		−·0007	·0000	+ 2·1	+ 0·8	−·0001
14	93·1	59·6		39·1		−·0007	·0000	+ 2·1	+ 0·8	−·0001
20	92·9	61·4		37·6		−·0005	·0000	+ 2·1	+ 0·5	−·0001
26	92·8	61·9		36·3		−·0005	·0000	+ 2·1	+ 0·5	−·0001
32	92·5	62·5		36·1		−·0004	·0000	+ 2·0	+ 0·4	·0000
38	92·2	62·3		34·9		−·0005	−·0001	+ 1·9	+ 0·4	−·0001
44	92·2	62·3		34·9		−·0005	·0000	+ 2·0	+ 0·5	−·0001
50	91·9	63·1		33·6		−·0002	−·0001	+ 1·9	+ 0·1	−·0001
56	91·7	64·2		33·6		−·0002	−·0001	+ 1·9	+ 0·1	−·0001
19 02	91·7	63·5	68·8	33·6	67·2	−·0003	−·0001	+ 1·9	+ 0·2	−·0001
08	91·4	63·5		33·6		−·0003	·0000	+ 1·9	+ 0·3	·0000
14	91·2	62·8		34·1		−·0005	·0000	+ 1·9	+ 0·5	−·0001
20	91·1	62·2		33·8		−·0005	·0000	+ 1·9	+ 0·5	−·0001
26	90·6	61·8		35·1		−·0006	·0000	+ 1·6	+ 0·7	−·0001
32	90·2	61·5		35·1		−·0006	·0000	+ 1·5	+ 0·7	−·0001
38	90·2	61·8		35·6		−·0006	+·0001	+ 1·6	+ 0·8	·0000
44	90·0	63·0		34·9		−·0005	+·0001	+ 1·6	+ 0·7	·0000
50	89·9	63·1		34·9		−·0005	+·0001	+ 1·6	+ 0·7	·0000
56	89·9	63·3		35·1		−·0005	+·0001	+ 1·8	+ 0·7	·0000
20 02	89·7	63·6	68·6	35·1	67·2	−·0004	+·0001	+ 1·8	+ 0·5	·0000
08	89·5	64·0		35·0		−·0003	+·0001	+ 1·8	+ 0·4	+·0001
14	89·2	64·4		34·9		−·0003	+·0002	+ 1·7	+ 0·5	+·0001
20	89·1	64·7		34·8		−·0002	+·0002	+ 1·7	+ 0·4	+·0002
26	88·9	64·7		34·7		−·0002	+·0002	+ 1·7	+ 0·4	+·0002
32	88·6	64·1		34·9		−·0003	+·0002	+ 1·6	+ 0·5	+·0001
38	88·5	64·5		34·8		−·0002	+·0002	+ 1·7	+ 0·4	+·0002
44	88·3	64·1		35·1		−·0003	+·0002	+ 1·7	+ 0·5	+·0001
50	88·0	63·7		35·2		−·0003	+·0002	+ 1·6	+ 0·5	+·0001
56	87·9	63·9		35·9		−·0003	+·0002	+ 1·6	+ 0·5	+·0001
21 02	87·7	64·2	68·2	36·5	67·0	−·0002	+·0002	+ 1·6	+ 0·4	+·0002
08	87·7	64·3		36·5		−·0002	+·0002	+ 1·7	+ 0·4	+·0002
14	87·3	64·2		36·2		−·0003	+·0002	+ 1·5	+ 0·5	+·0001
20	87·3	63·3		36·7		−·0005	+·0002	+ 1·6	+ 0·8	+·0001
26	87·1	64·3		36·7		−·0003	+·0002	+ 1·5	+ 0·5	+·0001
32	87·1	65·0		36·2		−·0002	+·0002	+ 1·6	+ 0·4	+·0002
38	87·1	64·7		36·1		−·0003	+·0002	+ 1·6	+ 0·5	+·0001
44	87·1	64·7		36·2		−·0003	+·0002	+ 1·6	+ 0·5	+·0001
50	86·9	64·1		37·3		−·0004	+·0003	+ 1·6	+ 0·8	+·0002
56	86·7	64·4		37·5		−·0004	+·0003	+ 1·5	+ 0·8	+·0002
22 02	86·5	65·4	67·8	37·0	66·6	−·0002	+·0003	+ 1·4	+ 0·5	+·0002
08	86·4	64·8		38·0		−·0003	+·0003	+ 1·4	+ 0·7	+·0002
14	86·4	64·2		37·8		−·0004	+·0004	+ 1·4	+ 0·9	+·0003
20	86·3	64·4		37·8		−·0003	+·0004	+ 1·4	+ 0·8	+·0003

1843.
Van Diemen Island.

February 24—25.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 2m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
						$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta \psi$	$\Delta \theta$	$\frac{\Delta \phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
24 22 26	86·2	64·5		37·9		−·0003	+·0003	+ 1·4	+ 0·7	+·0002
32	86·4	64·0		38·8		−·0004	+·0004	+ 1·5	+ 0·9	+·0003
38	86·8	64·2		38·5		−·0004	+·0003	+ 1·8	+ 0·8	+·0002
44	86·7	65·5		37·9		−·0002	+·0003	+ 1·8	+ 0·5	+·0002
50	86·4	64·8		38·5		−·0002	+·0003	+ 1·6	+ 0·5	+·0002
56	86·6	65·5		38·0		−·0002	+·0003	+ 1·8	+ 0·5	+·0002
23 02	86·8	65·5	67·4	37·9	66·5	−·0002	+·0003	+ 1·9	+ 0·5	+·0002
08	86·7	65·8		37·4		−·0001	+·0003	+ 1·9	+ 0·4	+·0003
14	86·8	65·8		37·2		−·0001	+·0003	+ 2·1	+ 0·4	+·0003
20	86·5	65·3		38·3		−·0002	+·0003	+ 1·9	+ 0·5	+·0002
26	86·5	65·1		38·4		−·0002	+·0003	+ 2·0	+ 0·5	+·0002
32	86·4	64·7		39·3		−·0002	+·0004	+ 2·0	+ 0·7	+·0003
38	86·4	65·1		39·5		−·0002	+·0004	+ 2·0	+ 0·7	+·0003
44	86·4	64·8		39·3		−·0002	+·0003	+ 2·1	+ 0·5	+·0002
50	85·8	65·7		37·6		−·0001	+·0003	+ 1·7	+ 0·4	+·0003
56	83·9	66·3		35·9		−·0001	+·0002	+ 0·4	+ 0·3	+·0002
25 00 02	82·4	67·4	67·4	34·8	66·5	+·0001	+·0002	− 0·6	+ 0·1	+·0002
08	81·7	67·2		34·8		·0000	+·0001	− 1·0	+ 0·1	+·0001
14	81·7	66·4		35·5		−·0001	+·0002	− 0·9	+ 0·3	+·0002
20	82·4	65·5		37·8		−·0002	+·0002	− 0·4	+ 0·4	+·0002
26	83·4	64·9		39·4		−·0004	+·0003	+ 0·4	+ 0·8	+·0002
32	83·9	64·1		41·2		−·0005	+·0003	+ 0·8	+ 0·9	+·0002
38	84·3	64·5		42·2		−·0005	+·0004	+ 1·1	+ 1·0	+·0003
44	84·2	65·3		42·3		−·0005	+·0004	+ 1·1	+ 1·0	+·0003
50	84·4	65·2		42·6		−·0005	+·0004	+ 1·3	+ 1·0	+·0003
56	84·4	65·0		43·2		−·0005	+·0004	+ 1·4	+ 1·0	+·0004
01 02	84·6	65·2	66·0	43·6	65·4	−·0006	+·0004	+ 1·6	+ 1·1	+·0003
08	84·7	65·9		44·3		−·0007	+·0004	+ 1·7	+ 1·2	+·0003
14	85·0	66·6		44·5		−·0004	+·0004	+ 2·0	+ 0·9	+·0003
20	85·0	66·2		44·5		−·0005	+·0004	+ 2·1	+ 1·0	+·0003
26	85·1	66·9		44·5		−·0004	+·0004	+ 2·2	+ 0·9	+·0003
32	85·1	66·8		44·5		−·0005	+·0004	+ 2·3	+ 1·0	+·0003
38	85·1	67·9		44·8		−·0003	+·0004	+ 2·3	+ 0·8	+·0003
44	85·1	68·6		44·8		−·0002	+·0004	+ 2·3	+ 0·7	+·0003
50	85·0	68·3		44·8		−·0003	+·0004	+ 2·3	+ 0·8	+·0003
56	85·0	68·4		45·2		−·0003	+·0004	+ 2·4	+ 0·8	+·0003
02 02	85·2	68·9	65·2	45·4	65·0	−·0002	+·0004	+ 2·6	+ 0·7	+·0003
08	85·1	68·2		45·5		−·0003	+·0004	+ 2·6	+ 0·8	+·0003
14	85·2	67·2		45·5		−·0005	+·0004	+ 2·6	+ 1·0	+·0003
20	85·2	68·0		46·1		−·0003	+·0004	+ 2·6	+ 0·8	+·0003
26	85·2	68·7		45·9		−·0002	+·0004	+ 2·6	+ 0·7	+·0003
32	85·2	68·6		45·9		−·0002	+·0004	+ 2·6	+ 0·7	+·0003
38	85·2	68·7		46·1		−·0002	+·0004	+ 2·6	+ 0·7	+·0003
44	85·2	68·8		46·1		−·0002	+·0004	+ 2·6	+ 0·7	+·0003
50	85·0	68·1		46·5		−·0003	+·0004	+ 2·4	+ 0·8	+·0003
56	85·2	68·5		46·5		−·0002	+·0004	+ 2·6	+ 0·7	+·0003
03 02	85·0	68·1	65·0	46·5	64·5	−·0003	+·0004	+ 2·4	+ 0·8	+·0003
08	85·2	68·1		46·7		−·0003	+·0004	+ 2·5	+ 0·8	+·0003
14	85·2	68·1		47·2		−·0003	+·0004	+ 2·5	+ 0·8	+·0003
20	85·2	68·1		47·2		−·0003	+·0004	+ 2·4	+ 0·8	+·0003
26	85·2	68·4		47·6		−·0002	+·0004	+ 2·4	+ 0·7	+·0003
32	85·1	68·6		48·1		−·0002	+·0004	+ 2·3	+ 0·7	+·0003
38	85·2	69·0		48·5		−·0002	+·0004	+ 2·3	+ 0·7	+·0003
44	85·0	69·0		48·6		−·0002	+ 0004	+ 2·1	+ 0·7	+·0003
50	85·0	69·2		49·1		−·0002	+·0004	+ 2·1	+ 0·7	+·0003
56	85·1	69·6		48·8		−·0001	+·0004	+ 2·1	+ 0·5	+·0003
04 02	84·8	69·8	65·0	49·3	64·0	−·0001	+·0004	+ 1·9	+ 0·5	+·0003
08	85·0	69·9		49·2		−·0001	+·0004	+ 2·0	+ 0·5	+·0004
14	85·0	70·2		48·1		−·0001	+·0004	+ 2·0	+ 0·5	+·0004
20	84·8	69·4		47·9		−·0002	+·0004	+ 1·8	+ 0·7	+·0003
26	84·7	70·3		47·4		−·0001	+·0004	+ 1·7	+ 0·5	+·0003
32	84·5	70·2		46·4		−·0001	+·0003	+ 1·5	+ 0·4	+·0003

1843.
Van Diemen Island.

February 25.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 2m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
25 04 38	84·7	70·4		46·1		−·0001	+·0003	+ 1·6	+ 0·4	+·0003
44	84·7	70·0		46·2		−·0001	+·0003	+ 1·6	+ 0·4	+·0003
50	84·5	69·5		46·8		−·0002	+·0003	+ 1·4	+ 0·5	+·0003
56	84·5	69·5		47·4		−·0002	+·0004	+ 1·4	+ 0·7	+·0003
05 02	84·4	69·8	64·6	47·9	63·8	−·0002	+·0004	+ 1·2	+ 0·7	+·0003
08	84·2	70·3		48·3		−·0001	+·0004	+ 1·0	+ 0·5	+·0003
14	84·2	69·6		48·8		−·0002	+·0004	+ 1·0	+ 0·7	+·0003
20	83·7	69·5		49·0		−·0002	+·0004	+ 0·6	+ 0·7	+·0003
26	84·1	69·9		49·0		−·0002	+·0004	+ 0·9	+ 0·7	+·0003
32	84·2	69·8		49·5		−·0002	+·0004	+ 0·9	+ 0·7	+·0003
38	84·2	70·2		49·8		−·0002	+·0004	+ 0·8	+ 0·7	+·0003
44	84·3	70·1		49·5		−·0002	+·0004	+ 0·9	+ 0·7	+·0003
50	84·3	70·2		49·7		−·0002	+·0004	+ 0·8	+ 0·7	+·0003
56	84·0	70·5		49·7		−·0002	+·0003	+ 0·6	+ 0·5	+·0002
06 02	83·7	70·2	64·2	49·7	63·4	−·0002	+·0003	+ 0·3	+ 0·5	+·0002
08	83·7	70·4		50·0		−·0002	+·0003	+ 0·3	+ 0·5	+·0002
14	83·8	70·4		50·6		−·0002	+·0003	+ 0·4	+ 0·5	+·0002
20	84·1	70·2		50·3		−·0002	+·0003	+ 0·6	+ 0·5	+·0002
26	83·8	70·5		50·6		−·0002	+·0003	+ 0·5	+ 0·5	+·0002
32	83·6	70·3		50·8		−·0002	+·0003	+ 0·4	+ 0·5	+·0002
38	83·7	70·0		51·1		−·0003	+·0003	+ 0·4	+ 0·7	+·0002
44	83·6	70·1		51·7		−·0003	+·0003	+ 0·4	+ 0·7	+·0002
50	83·6	70·2		52·4		−·0003	+·0003	+ 0·4	+ 0·7	+·0002
56	83·8	70·4		52·4		−·0003	+·0003	+ 0·6	+ 0·7	+·0002
07 02	83·7	70·6	63·5	52·2	63·0	−·0002	+·0003	+ 0·6	+ 0·5	+·0002
08	83·9	70·8		52·5		−·0002	+·0003	+ 0·7	+ 0·5	+·0002
14	83·9	71·1		52·3		−·0002	+·0003	+ 0·8	+ 0·5	+·0002
20	83·9	71·8		52·3		−·0002	+·0003	+ 0·8	+ 0·5	+·0002
26	83·9	71·4		52·0		−·0002	+·0002	+ 0·9	+ 0·4	+·0002
32	83·9	71·9		52·6		−·0002	+·0002	+ 0·9	+ 0·4	+·0002
38	83·9	72·2		52·8		−·0002	+·0002	+ 0·9	+ 0·4	+·0002
44	83·9	72·0		52·7		−·0002	+·0002	+ 0·9	+ 0·4	+·0002
50	83·5	71·9		53·1		−·0002	+·0002	+ 0·6	+ 0·4	+·0002
56	83·6	72·0		52·9		−·0002	+·0002	+ 0·8	+ 0·4	+·0002
08 02	84·1	72·2	63·0	54·0	62·6	−·0002	+·0002	+ 1·1	+ 0·4	+·0002
08	84·6	73·1		53·8		−·0001	+·0002	+ 1·6	+ 0·3	+·0002
14	84·8	72·5		52·4		−·0002	+·0002	+ 1·9	+ 0·4	+·0002
20	84·0	72·9		52·4		−·0001	+·0001	+ 1·4	+ 0·2	+·0001
26	84·0	72·7		52·1		−·0002	+·0001	+ 1·5	+ 0·3	+·0001
32	83·6	73·0		51·8		−·0001	+·0001	+ 1·3	+ 0·2	+·0001
38	83·4	73·0		51·4		−·0001	·0000	+ 1·2	+ 0·1	·0000
44	83·5	73·0		51·1		−·0001	·0000	+ 1·4	+ 0·1	·0000
50	83·3	73·0		50·8		−·0001	·0000	+ 1·4	+ 0·1	·0000
56	83·0	72·8		51·5		−·0001	·0000	+ 1·3	+ 0·1	·0000
09 02	82·1	72·9	63·0	51·9	62·4	−·0001	·0000	+ 0·7	+ 0·1	·0000
08	82·9	74·1		51·2		·0000	·0000	+ 1·4	0·0	·0000
14	83·3	74·2		50·2		+·0001	·0000	+ 1·9	− 0·1	·0000
20	82·8	74·2		50·1		+·0001	·0000	+ 1·6	− 0·1	·0000
26	82·6	74·7		49·2		+·0001	−·0001	+ 1·6	− 0·2	−·0001
32	82·5	74·5		48·6		+·0001	−·0001	+ 1·7	− 0·2	−·0001
38	81·7	74·7		48·2		+·0002	−·0002	+ 1·2	− 0·4	−·0002
44	82·0	73·9		48·9		+·0001	−·0001	+ 1·6	− 0·2	−·0001
50	81·8	73·8		49·3		+·0001	−·0001	+ 1·6	− 0·2	−·0001
56	82·2	73·8		50·7		+·0001	−·0001	+ 2·0	− 0·2	−·0001

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For Mean Monthly Readings, *see* page 167.

ST. HELENA, 1843. FEBRUARY 25.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
25 10 02	16·4	46·2	73·8	39·6	73·8	·0000	−·0022	− 0·6	− 2·6	−·0003
07	16·3	46·6		39·6		+·0001	−·0022	− 0·6	− 2·7	−·0002
12	16·2	46·9		39·5		+·0001	−·0023	− 0·8	− 2·8	−·0002
17	16·3	47·2		39·5		+·0002	−·0023	− 0·7	− 2·8	−·0001
22	16·3	47·2		39·5		+·0002	−·0023	− 0·7	− 2·8	−·0001
27	16·4	47·1		39·5		+·0001	−·0023	− 0·6	− 2·8	−·0002
32	16·4	47·0		39·5		+·0001	−·0023	− 0·7	− 2·8	−·0002
37	16·4	47·0		39·5		+·0001	−·0022	− 0·7	− 2·7	−·0002
42	16·1	46·0		39·5		−·0001	−·0022	− 0·9	− 2·5	−·0004
47	16·2	46·2		39·5		−·0001	−·0022	− 0·8	− 2·5	−·0004
52	16·2	46·6		39·5		·0000	−·0022	− 0·9	− 2·6	−·0003
57	16·2	46·4		39·5		−·0001	−·0022	− 0·9	− 2·5	−·0004
11 02	16·4	46·0	73·4	39·5	73·4	−·0002	−·0022	− 0·8	− 2·4	−·0005
07	16·4	46·0		39·4		−·0002	−·0023	− 0·8	− 2·5	−·0005
12	16·3	45·6		39·4		−·0003	−·0023	− 0·8	− 2·4	−·0006
17	16·0	45·4		39·1		−·0003	−·0027	− 1·1	− 2·8	−·0006
22	16·0	45·5		39·1		−·0003	−·0027	− 1·1	− 2·8	−·0006
27	16·0	45·8		39·0		−·0002	−·0029	− 1·1	− 3·2	−·0006
32	16·1	45·7		39·0		−·0002	−·0029	− 1·0	− 3·2	−·0006
37	16·1	45·7		38·8		−·0002	−·0030	− 0·9	− 3·3	−·0006
42	16·1	45·8		38·8		−·0002	−·0030	− 0·9	− 3·3	−·0006
47	16·2	45·8		38·8		−·0002	−·0030	− 0·8	− 3·3	−·0006
52	16·2	46·0		38·8		−·0002	−·0030	− 0·8	− 3·3	−·0006
57	16·2	46·1		38·8		·0000	−·0030	− 0·8	− 3·5	−·0004

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MEAN MONTHLY READINGS OF THE MAGNETOMETERS.

Mean Göttingen Time.	Declination.	H. F. at 69°·0.	V. F. at 68°·8.	Mean Göttingen Time.	Declination.	H. F. at 69°·0.	V. F. at 68°·8.
Hours.	Sc. Div.	Sc. Div.	Sc. Div.	Hours.	Sc. Div.	Sc. Div.	Sc. Div.
00	16·3	61·8	33·0	12	16·6	53·5	33·3
01	18·4	61·9	33·1	13	16·5	53·9	33·2
02	19·1	61·6	33·2	14	16·4	54·3	33·3
03	18·2	60·2	33·4	15	16·2	54·0	33·2
04	16·5	58·7	33·7	16	16·2	54·2	33·2
05	15·8	57·1	33·6	17	16·1	54·3	33·1
06	15·8	55·7	33·6	18	16·2	54·5	33·4
07	16·2	54·3	33·6	19	16·6	54·9	33·3
08	16·2	54·0	33·6	20	15·4	55·5	33·3
09	16·4	53·3	33·5	21	13·0	56·8	33·2
10	16·4	53·2	33·4	22	12·0	58·5	33·0
11	16·6	53·1	33·4	23	13·6	60·6	32·9

Coefficients (A), Approximate Absolute Values (B).

(A) Declin. a = 0′·711
H. F. k = ·00019, q = ·00028
V. F. k = ·00130, q = ·00002

(B) Approx. ψ = 23° 11′, X = 5·57, Y = 2·21, θ = −21° 39′, ϕ = 6·00

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St. Helena.

March 6.

OBSERVATIONS OF THE MAGNETOMETERS. The Declination was observed 2m. before, and the V. F. 1m. after the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta \psi$	$\Delta \theta$	$\frac{\Delta \phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
6 11 02	15·8	42·8	69·1	36·0	69·0	−·0019	+·0034	− 0·6	+ 6·1	−·0012
07	15·9	42·8		36·0		−·0019	+·0034	− 0·5	+ 6·1	−·0012
12	15·9	42·8		36·0		−·0020	+·0034	− 0·5	+ 6·4	−·0013
17	15·9	42·8		36·0		−·0020	+·0034	− 0·5	+ 6·4	−·0013
22	15·9	43·1		36·0		−·0019	+·0034	− 0·5	+ 6·1	−·0012
27	15·7	43·0		36·0		−·0019	+·0034	− 0·6	+ 6·1	−·0012
32	15·4	43·0		36·0		−·0019	+·0034	− 0·8	+ 6·1	−·0012
37	15·4	43·8		36·1		−·0018	+·0036	− 0·8	+ 6·4	−·0011
42	15·8	44·0		36·1		−·0018	+·0036	− 0·6	+ 6·4	−·0011
47	15·8	43·9		36·1		−·0018	+·0036	− 0·6	+ 6·4	−·0011
52	15·4	43·8		36·1		−·0018	+·0036	− 0·8	+ 6·4	−·0011
57	15·3	43·8		36·1		−·0018	+·0036	− 0·9	+ 6·4	−·0011
12 02	15·1	43·8	69·0	36·1	69·0	−·0018	+·0036	− 1·1	+ 6·4	−·0011
07	15·1	44·0		36·1		−·0018	+·0036	− 1·1	+ 6·4	−·0011
12	15·1	43·9		36·1		−·0018	+·0036	− 1·1	+ 6·4	−·0011
17	15·1	43·8		36·1		−·0019	+·0036	− 1·1	+ 6·5	−·0012
22	15·0	43·5		36·1		−·0019	+·0036	− 1·1	+ 6·5	−·0012
27	15·0	43·1		36·1		−·0020	+·0036	− 1·1	+ 6·6	−·0012
32	15·0	43·0		36·1		−·0020	+·0036	− 1·1	+ 6·6	−·0012
37	14·9	43·0		36·1		−·0020	+·0038	− 1·1	+ 6·8	−·0012
42	14·9	43·9		36·1		−·0019	+·0038	− 1·1	+ 6·7	−·0011
47	14·9	45·0		36·1		−·0017	+·0038	− 1·1	+ 6·5	−·0010
52	15·0	46·0		36·1		−·0015	+·0038	− 1·1	+ 6·1	−·0008
57	14·9	46·8		36·1		−·0014	+·0038	− 1·1	+ 6·1	−·0007
13 02	14·5	46·8	69·0	36·1	68·9	−·0014	+·0038	− 1·4	+ 6·1	−·0007
07	14·4	47·5		36·1		−·0012	+·0038	− 1·5	+ 5·9	−·0005
12	14·5	46·8		36·1		−·0014	+·0038	− 1·4	+ 6·1	−·0007
17	14·2	46·0		36·1		−·0015	+·0038	− 1·6	+ 6·1	−·0008
22	14·2	45·8		36·1		−·0016	+·0038	− 1·6	+ 6·4	−·0009
27	14·0	45·2		36·1		−·0017	+·0038	− 1·8	+ 6·5	−·0010
32	14·0	45·5		36·0		−·0016	+·0036	− 1·8	+ 6·1	−·0009
37	14·0	46·8		36·0		−·0014	+·0035	− 1·7	+ 5·8	−·0007
42	13·4	48·0		36·0		−·0012	+·0035	− 2·1	+ 5·4	−·0006
47	13·0	49·5		36·0		−·0009	+·0035	− 2·4	+ 5·2	−·0003
52	12·7	50·9		36·0		−·0006	+·0035	− 2·6	+ 4·8	−·0001
57	13·0	51·1		36·0		−·0006	+·0035	− 2·4	+ 4·8	−·0001
14 02	13·4	50·7	69·1	36·0	69·1	−·0007	+·0035	− 2·1	+ 4·9	−·0001
07	14·0	50·7		36·0		−·0007	+·0035	− 1·7	+ 4·9	−·0001
12	14·4	51·7		36·2		−·0005	+·0038	− 1·4	+ 4·9	+·0001
17	14·8	51·1		36·2		−·0006	+·0038	− 1·1	+ 5·2	·0000
22	14·7	50·9		36·2		−·0006	+·0038	− 1·1	+ 5·2	·0000
27	14·7	51·0		36·2		−·0006	+·0038	− 1·1	+ 5·2	·0000
32	14·8	51·2		36·2		−·0005	+·0038	− 1·1	+ 4·9	+·0001
37	14·8	51·2		36·2		−·0006	+·0039	− 1·1	+ 5·3	·0000
42	14·1	50·7		36·2		−·0007	+·0039	− 1·5	+ 5·4	−·0001
47	14·1	50·0		36·2		−·0008	+·0039	− 1·5	+ 5·4	−·0002
52	14·3	50·0		36·2		−·0008	+·0039	− 1·3	+ 5·4	−·0002
57	15·0	49·8		36·2		−·0008	+·0039	− 0·8	+ 5·4	−·0002
15 02	15·0	49·5	69·0	36·2	69·0	−·0009	+·0039	− 0·8	+ 5·7	−·0002
07	15·1	49·0		36·4		−·0010	+·0042	− 0·8	+ 6·1	−·0003
12	15·0	48·7		36·4		− 0010	+·0042	− 0·8	+ 6·1	−·0003
17	15·0	48·8		36·4		−·0010	+·0042	− 0·8	+ 6·1	−·0003
22	14·9	48 2		36·4		−·0011	+·0042	− 0·9	+ 6·1	−·0004
27	14·8	48·1		36·3		−·0011	+·0040	− 1·0	+ 6·0	−·0004
32	14·4	48·0		36·3		−·0012	+·0040	− 1·3	+ 6·1	−·0005
37	14·4	48·0		36·3		−·0012	+·0040	− 1·3	+ 5·1	−·0005
42	14·3	48·0		36·3		−·0012	+·0040	− 1·3	+ 6·1	−·0005
47	14·2	47·8		36·3		−·0012	+·0040	− 1·4	+ 6·1	−·0005
52	14·0	47·5		36·3		−·0013	+·0040	− 1·5	+ 6·1	−·0006
57	14·0	47·4		36·3		−·0013	+·0040	− 1·5	+ 6·1	−·0006
16 02	14·0	47·7	68·9	36·3	68·9	−·0013	+·0040	− 1·5	+ 6·1	−·0006
07	13·8	47·7		36·3		−·0013	+·0040	− 1·7	+ 6·1	−·0006

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OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force
6 16 12	13·5	47·8		36·3		−·0012	+·0040	− 1·9	+ 6·1	−·0005
17	14·0	48·0		36·3		−·0012	+·0040	− 1·5	+ 6·1	−·0005
22	14·1	48·2		36·3		−·0012	+·0040	− 1·5	+ 6·1	−·0005
27	14·5	48·4		36·3		−·0011	+·0040	− 1·2	+ 6·0	−·0004
32	15·0	48·7		36·3		−·0011	+·0040	− 0·8	+ 6·0	−·0004
37	15·1	48·3		36·3		−·0012	+·0042	− 0·7	+ 6·4	−·0005
42	15·2	48·4		36·3		−·0012	+·0042	− 0·6	+ 6·4	−·0005
47	15·5	48·5		36·3		−·0011	+·0042	− 0·4	+ 6·1	−·0004
52	15·6	48·7		36·3		−·0011	+·0042	− 0·4	+ 6·1	−·0004
57	15·8	48·7		36·3		−·0011	+·0042	− 0·2	+ 6·1	−·0004
17 02	15·8	48·8	68·8	36·3	68·7	−·0011	+·0042	− 0·2	+ 6·1	−·0004
07	15·4	48·8		36·3		−·0011	+·0042	− 0·5	+ 6·1	−·0004
12	15·1	48·4		36·3		−·0012	+·0040	− 0·7	+ 6·1	−·0005
17	15·0	48·3		36·3		−·0012	+·0040	− 0·8	+ 6·1	−·0005
22	14·8	48·2		36·3		−·0012	+·0040	− 0·9	+ 6·1	−·0005
27	15·0	48·2		36·3		−·0012	+·0040	− 0·8	+ 6·1	−·0005
32	15·0	48·2		36·3		−·0012	+·0039	− 0·8	+ 6·0	−·0005
37	15·0	48·2		36·3		−·0012	+·0039	− 0·8	+ 6·0	−·0005
42	15·0	48·2		36·3		−·0012	+·0039	− 0·8	+ 6·0	−·0005
47	15·0	47·9		36·3		−·0013	+·0039	− 0·8	+ 6·1	−·0006
52	15·2	47·9		36·3		−·0013	+·0038	− 0·7	+ 6·0	−·0006
57	15·4	47·9		36·3		−·0013	+·0038	− 0·6	+ 6·0	−·0006
18 02	15·8	47·9	68·8	36·3	68·7	−·0013	+·0038	− 0·3	+ 6·0	−·0006
07	15·8	48·2		36·3		−·0013	+·0038	− 0·3	+ 6·0	−·0006
12	15·8	48·2		36·3		−·0013	+·0038	− 0·4	+ 6·0	−·0006
17	15·8	48·2		36·3		−·0013	+·0038	− 0·4	+ 6·0	−·0006
22	15·8	48·0		36·3		−·0013	+·0038	− 0·4	+ 6·0	−·0006
27	15·8	48·0		36·3		−·0013	+·0038	− 0·4	+ 6·0	−·0006
32	16·0	47·9		36·3		−·0014	+·0038	− 0·3	+ 6·1	−·0007
37	16·0	48·0		36·3		−·0013	+·0039	− 0·3	+ 6·1	−·0006
42	16·1	47·9		36·3		−·0014	+·0039	− 0·3	+ 6·1	−·0007
47	16·0	47·9		36·3		−·0014	+·0039	− 0·4	+ 6·1	−·0007
52	16·1	48·2		36·3		−·0013	+·0039	− 0·3	+ 6·1	−·0006
57	16·2	48·2		36·3		−·0013	+·0039	− 0·3	+ 6·1	−·0006
19 02	16·3	48·1	68·8	36·3	68·7	−·0014	+·0039	− 0·2	+ 6·1	−·0007
07	16·2	48·6		36·2		−·0013	+·0038	− 0·2	+ 6·0	−·0006
12	16·4	48·8		36·2		−·0012	+·0038	0·0	+ 5·9	−·0005
17	16·6	48·9		36·2		−·0012	+·0038	+ 0·2	+ 5·9	−·0005
22	16·6	49·0		36·4		−·0012	+·0040	+ 0·3	+ 6·1	−·0005
27	16·7	49·2		36·4		−·0012	+·0040	+ 0·4	+ 6·1	−·0005
32	16·7	49·3		36·4		−·0012	+·0040	+ 0·5	+ 6·1	−·0005
37	16·7	50·4		36·4		−·0010	+·0040	+ 0·6	+ 5·9	−·0003
42	16·7	51·0		36·4		−·0009	+·0040	+ 0·6	+ 5·8	−·0002
47	16·6	52·0		36·4		−·0007	+·0040	+ 0·6	+ 5·4	−·0001
52	16·1	52·5		36·4		−·0006	+·0040	+ 0·4	+ 5·4	·0000
57	15·9	52·5		36·6		−·0006	+·0043	+ 0·3	+ 5·8	+·0001
20 02	15·6	52·1	68·9	36·5	68·7	−·0007	+·0042	+ 0·1	+ 5·8	·0000
07	15·3	52·0		36·5		−·0007	+·0042	+ 0·1	+ 5·8	·0000
12	14·9	52·0		36·5		−·0007	+·0042	− 0·1	+ 5·8	·0000
17	14·4	52·0		36·5		−·0007	+·0042	− 0·3	+ 5·8	·0000
22	14·0	52·0		36·4		−·0008	+·0040	− 0·4	+ 5·7	−·0001
27	13·8	52·0		36·4		−·0008	+·0040	− 0·4	+ 5·7	−·0001
32	13·7	52·0		36·4		−·0008	+·0040	− 0·4	+ 5·7	−·0001
37	13·5	52·1		36·5		−·0008	+·0043	− 0·4	+ 6·0	−·0001
42	13·5	52·1		36·5		−·0009	+·0043	− 0·2	+ 6·1	−·0002
47	13·5	52·3		36·5		−·0008	+·0043	− 0·1	+ 6·0	−·0001
52	13·2	52·6		36·5		−·0008	+·0043	− 0·1	+ 6·0	−·0001
57	13·0	52·8		36·4		−·0008	+·0042	− 0·1	+ 5·9	−·0001
21 02	12·8	53·0	68·8	36·4	68·3	−·0008	+·0043	− 0·1	+ 6·0	−·0001
32	12·1	53·8		36·4		−·0008	+·0043	− 0·3	+ 6·0	−·0001
22 02	12·0	54·4	68·7	36·1	68·3	−·0009	+·0040	0·0	+ 5·7	−·0002
23 02	12·7	56·2	68·7	36·0	68·3	−·0009	+·0040	− 0·6	+ 5·7	−·0002

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OBSERVATIONS OF THE MAGNETOMETERS. The Declination was observed 2m. before, and the V. F. 1m. after the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
7 00 02	14·5	58·1	68·9	36·0	68·5	−·0007	+·0039	− 1·2	+ 5·4	−·0001
01 02	14·9	58·5	69·2	36·1	68·9	−·0006	+·0039	− 2·5	+ 5·3	·0000
02 02	16·6	58·1	69·7	36·3	69·2	−·0006	+·0040	− 1·8	+ 5·4	·0000
03 02	15·7	55·4	69·9	36·3	69·5	−·0007	+·0038	− 1·8	+ 5·3	−·0001
04 02	13·9	51·5	70·2	36·3	69·9	−·0010	+·0034	− 1·8	+ 5·2	−·0004
05 02	12·0	47·0	70·7	36·3	70·2	−·0014	+·0035	− 2·7	+ 5·8	−·0007
07	11·9	46·1		36·3		−·0016	+·0035	− 2·7	+ 6·0	−·0009
12	11·9	45·9		36·6		−·0016	+·0039	− 2·7	+ 6·5	−·0009
17	12·0	45·8		36·6		−·0016	+·0039	− 2·7	+ 6·5	−·0009
22	12·1	45·8		36·6		−·0016	+·0039	− 2·6	+ 6·5	−·0009
27	12·0	45·9		36·6		−·0015	+·0039	− 2·7	+ 6·4	−·0008
32	11·5	45·9		36·6		−·0015	+·0039	− 3·0	+ 6·4	−·0008
37	11·4	45·9		36·6		−·0015	+·0039	− 3·1	+ 6·4	−·0008
42	11·1	45·0		36·6		−·0016	+·0039	− 3·3	+ 6·5	−·0009
47	11·4	44·9		36·6		−·0016	+·0039	− 3·1	+ 6·5	−·0009
52	11·5	44·1		36·6		−·0017	+·0039	− 3·0	+ 6·6	−·0009
57	11·8	44·1		36·6		−·0017	+·0039	− 2·8	+ 6·6	−·0009
06 02	11·9	44·0	70·9	36·6	70·5	−·0017	+·0039	− 2·7	+ 6·6	−·0009
07	12·0	43·9		36·6		−·0017	+·0039	− 2·7	+ 6·6	−·0009
12	12·0	43·3		36·6		−·0018	+·0039	− 2·7	+ 6·7	−·0010
17	12·0	43·1		36·6		−·0018	+·0039	− 2·7	+ 6·7	−·0010
22	12·2	43·0		36·6		−·0018	+·0039	− 2·6	+ 6·7	−·0010
27	12·3	42·9		36·6		−·0018	+·0039	− 2·6	+ 6·7	−·0010
32	12·5	42·5		36·6		−·0018	+·0039	− 2·5	+ 6·7	−·0010
37	12·7	42·3		36·6		−·0019	+·0039	− 2·3	+ 6·8	−·0011
42	12·8	42·0		36·6		−·0019	+·0039	− 2·3	+ 6·8	−·0011
47	12·9	41·9		36·6		−·0019	+·0039	− 2·2	+ 6·8	−·0011
52	12·9	41·2		36·6		−·0020	+·0039	− 2·2	+ 6·8	−·0012
57	13·0	41·1		36·6		−·0020	+·0039	− 2·2	+ 6·8	−·0012
07 02	13·1	41·0	70·9	36·6	70·6	−·0020	+·0039	− 2·2	+ 6·8	−·0012
07	13·7	40·9		36·6		−·0020	+·0039	− 1·8	+ 6·8	−·0012
12	13·5	40·8		36·6		−·0020	+·0039	− 1·9	+ 6·8	−·0012
17	13·1	40·4		36·6		−·0021	+·0039	− 2·2	+ 7·1	−·0013
22	13·0	40·0		36·6		−·0022	+·0039	− 2·2	+ 7·2	−·0014
27	13·1	40·0		36·6		−·0022	+·0039	− 2·2	+ 7·2	−·0014
32	13·2	40·0		36·6		−·0022	+·0039	− 2·1	+ 7·2	−·0014
37	13·5	40·0		36·6		−·0022	+·0039	− 1·9	+ 7·2	−·0014
42	13·8	39·5		36·6		−·0022	+·0039	− 1·7	+ 7·2	−·0014
47	13·8	39·0		36·5		−·0023	+·0038	− 1·7	+ 7·2	−·0015
52	13·5	38·9		36·5		−·0023	+·0038	− 1·9	+ 7·2	−·0015
57	13·3	38·9		36·5		−·0023	+·0038	− 2·0	+ 7·2	−·0015
08 02	13·2	38·7	70·9	36·6	70·6	−·0024	+·0039	− 2·1	+ 7·4	−·0016
07	13·2	39·0		36·6		−·0023	+·0039	− 2·1	+ 7·3	−·0015
12	13·7	39·5		36·6		−·0022	+·0039	− 1·8	+ 7·2	−·0014
17	13·9	40·1		36·6		−·0021	+·0039	− 1·6	+ 7·1	−·0013
22	13·9	40·4		36·6		−·0020	+·0039	− 1·7	+ 6·8	−·0012
27	13·9	40·9		36·6		−·0019	+·0039	− 1·7	+ 6·8	−·0011
32	13·9	41·5		36·6		−·0018	+·0039	− 1·7	+ 6·7	−·0010
37	14·0	42·1		36·6		−·0017	+·0040	− 1·6	+ 6·7	−·0009
42	14·1	42·8		36·6		−·0015	+·0040	− 1·5	+ 6·5	−·0008
47	14·3	43·6		36·6		−·0014	+·0040	− 1·4	+ 6·4	−·0007
52	14·7	44·2		36·6		−·0012	+·0040	− 1·2	+ 6·1	−·0005
57	14·7	44·8		36·6		−·0011	+·0040	− 1·2	+ 6·0	−·0004
09 02	14·5	45·0	70·9	36·6	70·4	−·0011	+·0040	− 1·3	+ 6·0	−·0004
07	14·5	45·1		36·6		−·0010	+·0040	− 1·3	+ 5·9	−·0003
12	14·6	45·4		36·6		−·0010	+·0040	− 1·3	+ 5·9	−·0003
17	14·7	45·6		36·6		−·0009	+·0040	− 1·2	+ 5·8	−·0002
22	14 4	45 1		36·6		−·0010	+·0040	− 1·4	+ 5·9	−·0003
27	14·2	44·8		36·6		−·0011	+·0040	− 1·5	+ 6·0	−·0004
32	14·0	45·0		36·6		−·0011	+·0040	− 1·7	+ 6·0	−·0004
37	14·1	45·2		36·6		−·0010	+·0042	− 1·6	+ 6·1	−·0003
42	14·5	45·4		36·6		−·0010	+·0042	− 1·3	+ 6·1	−·0003

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OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
7 09 47	14·7	45·4		36·6		−·0010	+·0042	− 1·2	+ 6·1	−·0003
52	14·7	45·8		36·6		−·0009	+·0042	− 1·2	+ 6·0	−·0002
57	14·7	46·1		36·7		−·0008	+·0043	− 1·2	+ 6·0	−·0001
10 02	14·8	46·4	70·8	36·8	70·4	−·0008	+·0044	− 1·1	+ 6·1	−·0001
07	15·0	46·7		36·8		−·0007	+·0044	− 1·0	+ 6·0	·0000
12	15·0	46·6		36·8		−·0008	+·0044	− 1·0	+ 6·1	−·0001
17	15·0	46·4		36·8		−·0008	+·0044	− 1·0	+ 6·1	−·0001
22	15·0	46·4		36·8		−·0008	+·0044	− 1·1	+ 6·1	−·0001
27	15·0	46·6		36·8		−·0008	+·0044	− 1·1	+ 6·1	−·0001
32	15·0	46·9		36·8		−·0007	+·0044	− 1·1	+ 6·0	·0000
37	15·1	47·0		36·8		−·0007	+·0044	− 1·0	+ 6·0	·0000
42	15·1	47·0		36·8		−·0007	+·0044	− 1·0	+ 6·0	·0000
47	15·1	47·1		36·8		−·0007	+·0044	− 1·0	+ 6·0	·0000
52	15·1	47·1		36·8		−·0007	+·0044	− 1·1	+ 6·0	·0000
57	15·1	47·1		36·8		−·0007	+·0044	− 1·1	+ 6·0	·0000
11 02	15·1	47·2	70·6	36·8	70·2	−·0007	+·0044	− 1·1	+ 6·0	·0000
07	15·1	47·3		36·8		−·0007	+·0044	− 1·1	+ 6·0	·0000
12	15·1	47·3		36·8		−·0007	+·0044	− 1·1	+ 6·0	·0000
17	15·1	47·3		36·8		−·0007	+·0044	− 1·1	+ 6·0	·0000
22	15·1	47·4		36·8		−·0007	+·0044	− 1·1	+ 6·0	·0000
27	15·1	47·7		36·8		−·0007	+·0044	− 1·1	+ 6·0	·0000
32	15·1	47·7		36·8		−·0007	+·0044	− 1·1	+ 6·0	·0000
37	15·1	48·0		36·8		−·0006	+·0046	− 1·1	+ 6·1	+·0001
42	15·1	48·0		36·8		−·0006	+·0046	− 1·1	+ 6·1	+·0001
47	15·1	48·0		36·8		−·0007	+·0046	− 1·1	+ 6·1	·0000
52	15·1	48·0		36·8		−·0007	+·0046	− 1·1	+ 6·1	·0000
57	15·1	48·0		36·8		−·0007	+·0046	− 1·1	+ 6·1	·0000
12 02	15·1	48·3	70·3	36·8	70·1	−·0006	+·0046	− 1·1	+ 6·1	+·0001
07	15·1	48·8		36·8		−·0005	+·0046	− 1·1	+ 6·0	+·0002
12	15·1	49·0		36·8		−·0005	+·0046	− 1·1	+ 6·0	+·0002
17	15·2	49·0		36·8		−·0005	+·0046	− 1·0	+ 6·0	+·0002
22	15·2	49·0		36·8		−·0005	+·0046	− 1·0	+ 6·0	+·0002
27	15·2	49·1		36·8		−·0005	+·0046	− 1·0	+ 6·0	+·0002
32	15·2	49·2		36·8		−·0005	+·0046	− 1·0	+ 6·0	+·0002
37	15·4	50·0		36·8		−·0004	+·0047	− 0·8	+ 6·0	+·0003
42	15·7	50·2		36·8		−·0004	+·0047	− 0·6	+ 6·0	+·0003
47	15·5	49·1		36·8		−·0006	+·0047	− 0·7	+ 6·1	+·0001
52	15·2	49·1		36·8		−·0006	+·0047	− 0·9	+ 6·1	+·0001
57	15·3	49·8		36·8		−·0005	+·0047	− 0·8	+ 6·1	+·0002
13 02	14·5	50·0	70·1	36·8	70·0	−·0004	+·0047	− 1·4	+ 6·0	+·0003

1843.
Toronto.
March.

TORONTO, 1843. MARCH 6—7.

MEAN MONTHLY READINGS OF THE MAGNETOMETERS.

Mean Göttingen Time.	Declination.	H. F. at 41°·4.	V. F. at 41°·5.	Mean Göttingen Time.	Declination.	H. F. at 41°·4.	V. F. at 41°·5.
Hours.	Sc. Div.	Sc. Div.	Sc. Div.	Hours.	Sc. Div.	Sc. Div.	Sc. Div.
00	30·1	78·3	19·3	12	25·6	87·4	18·6
01	31·4	75·8	19·7	13	26·6	85·0	19·1
02	33·2	74·7	19·4	14	28·3	81·4	19·6
03	32·4	72·5	19·0	15	28·6	82·0	19·6
04	29·8	71·1	17·9	16	29·5	81·4	19·1
05	26·6	70·2	17·5	17	28·7	82·4	18·8
06	23·3	73·7	17·7	18	28·0	81·1	18·4
07	20·9	77·2	17·8	19	28·1	81·4	17·9
08	20·5	83·0	18·0	20	27·9	80·8	17·8
09	21·7	87·7	18·1	21	28·4	82·3	18·4
10	22·8	89·5	18·0	22	28·4	82·7	18·8
11	24·4	89·5	18·2	23	28·9	82·5	18·8

Coefficients (A), Approximate Absolute Values (B).

(A) Declin. $a = 0' \cdot 721$

H. F. $k = \cdot 000099$, $q = \cdot 00027$

V. F. $k = \cdot 000094$, $q = \cdot 00007$

(B) Approx. $\psi = 1° 22'$, $X = 3 \cdot 54$, $Y = 13 \cdot 44$, $\theta = 75° 16'$, $\phi = 13 \cdot 90$

1843. Toronto. March 6.

OBSERVATIONS OF THE MAGNETOMETERS. The Declination was observed 2m. before, and the V. F. 1m. after the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta \psi$	$\Delta \theta$	$\frac{\Delta \phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
6 17 02	33·1	52·5	36·2	24·1	37·0	−·0044	+·0002	+ 3·2	+ 3·9	−·0001
57	33·3	32·9		22·0		−·0063	·0000	+ 3·7	+ 5·3	−·0004
18 02	30·1	31·1	36·0	17·5	37·1	−·0064	−·0004	+ 1·5	+ 5·1	−·0008
07	27·3	30·3		17·0		−·0065	−·0004	− 0·5	+ 5·1	−·0008
12	26·2	40·8		17·0		−·0054	−·0004	− 1·3	+ 4·2	−·0007
17	20·6	43·7		19·1		−·0051	−·0002	− 5·3	+ 4·1	−·0005
22	19·8	35·0		15·2		−·0060	−·0006	− 5·9	+ 4·6	−·0009
27	21·1	31·7		17·0		−·0063	−·0004	− 4·9	+ 5·0	−·0008
32	26·4	34·7		15·9		−·0059	−·0005	− 1·1	+ 4·6	−·0008
37	28·2	34·6		13·8		−·0059	−·0007	+ 0·1	+ 4·4	−·0010
42	25·1	31·7		13·1		−·0062	−·0007	− 2·2	+ 4·6	−·0011
47	25·4	33·1		13·1		−·0060	−·0007	− 1·9	+ 4·5	−·0010
52	26·0	30·9		12·9		−·0062	−·0007	− 1·5	+ 4·6	−·0011
57	24·6	30·4		12·0		−·0063	−·0008	− 2·6	+ 4·6	−·0012
19 02	26·5	34·1	37·0	12·6	38·0	−·0059	−·0007	− 1·1	+ 4·4	−·0010
07	28·3	37·4		11·4		−·0055	−·0009	+ 0·1	+ 3·9	−·0012
12	27·8	36·4		10·9		−·0056	−·0009	− 0·2	+ 4·0	−·0012
17	27·4	37·4		12·9		−·0055	−·0007	− 0·5	+ 4·1	−·0010
22	29·0	41·5		12·8		−·0051	−·0007	+ 0·7	+ 3·7	−·0010
27	28·3	40·0		13·5		−·0052	−·0006	+ 0·2	+ 3·9	−·0009
32	27·8	43·0		15·6		−·0049	−·0005	− 0·1	+ 3·7	−·0008
37	29·2	44·7		15·6		−·0047	−·0005	+ 0·8	+ 3·6	−·0008
42	29·8	44·0		15·6		−·0048	−·0005	+ 1·3	+ 3·6	−·0008
47	31·2	41·7		15·6		−·0050	−·0005	+ 2·3	+ 3·8	−·0008
52	31·0	38·8		16·4		−·0053	−·0004	+ 2·3	+ 4·1	−·0007
57	32·8	41·9		18·4		−·0050	−·0002	+ 3·5	+ 4·1	−·0005
20 02	33·4	38·2	37·2	16·6	38·2	−·0054	−·0003	+ 4·0	+ 4·3	−·0006
07	34·0	37·2		17·8		−·0055	−·0002	+ 4·4	+ 4·5	−·0005
12	35·8	41·7		18·6		−·0050	−·0002	+ 5·6	+ 4·1	−·0005
17	36·1	42·9		18·6		−·0049	−·0002	+ 5·9	+ 4·0	−·0005
22	35·2	47·0		19·6		−·0045	−·0001	+ 5·1	+ 3·7	−·0004
27	32·3	48·2		20·4		−·0044	·0000	+ 3·0	+ 3·7	−·0003
32	32·2	49·4		20·4		−·0043	·0000	+ 3·0	+ 3·6	−·0003
37	29·9	47·6		20·9		−·0045	·0000	+ 1·2	+ 3·8	−·0003
42	29·7	48·8		21·6		−·0044	+·0001	+ 1·1	+ 3·8	−·0002
47	29·8	49·7		22·1		−·0043	+·0001	+ 1·1	+ 3·7	−·0002
52	31·7	49·7		22·1		−·0044	+·0001	+ 2·5	+ 3·8	−·0002
57	31·0	51·1		22·6		−·0042	+·0002	+ 1·8	+ 3·7	−·0001
21 02	31·0	51·0	37·1	22·5	38·2	−·0043	+·0002	+ 1·8	+ 3·8	−·0001
07	31·0	49·0		22·8		−·0044	+·0002	+ 1·8	+ 3·9	−·0001
12	31·5	47·1		22·2		−·0046	+·0001	+ 2·3	+ 4·0	−·0002
17	28·9	47·7		21·5		−·0046	+·0001	+ 0·4	+ 4·0	−·0002
22	27·1	46·9		21·7		−·0046	+·0001	− 0·9	+ 4·0	−·0002
27	26·4	47·5		21·5		−·0045	+·0001	− 1·4	+ 3·9	−·0002
32	26·1	47·6		20·3		−·0045	·0000	− 1·6	+ 3·8	−·0003
37	25·5	47·2		20·1		−·0045	−·0001	− 2·0	+ 3·7	−·0004
42	25·0	45·7		20·1		−·0047	−·0001	− 2·5	+ 3·9	−·0004
47	26·0	49·1		21·3		−·0043	+·0001	− 1·7	+ 3·7	−·0002
52	27·1	50·9		21·5		−·0041	+·0001	− 0·9	+ 3·6	−·0002
57	28·0	51·7		20·9		−·0040	·0000	− 0·3	+ 3·4	−·0003
22 02	29·2	48·7	37·9	20·6	39·1	−·0043	·0000	+ 0·6	+ 3·6	−·0003
07	30·9	49·7		21·0		−·0042	+·0001	+ 1·8	+ 3·6	−·0002
12	31·0	49·6		20·6		−·0042	·0000	+ 1·8	+ 3·6	−·0003
17	31·0	50·0		21·2		−·0042	+·0001	+ 1·8	+ 3·6	−·0002
22	30·7	48·7		21·0		−·0043	+·0001	+ 1·5	+ 3·7	−·0002
27	30·2	45·9		20·5		−·0046	·0000	+ 1·1	+ 3·9	−·0003
32	28·8	44·6		20·5		−·0047	·0000	+ 0·1	+ 4·0	−·0003
37	27·6	42·9		20·2		−·0049	·0000	− 0·8	+ 4·1	−·0003
42	26·9	41·0		19·3		−·0051	−·0001	− 1·3	+ 4·2	−·0004
47	25·4	42·7		19·9		−·0049	·0000	− 2·5	+ 4·1	−·0003
52	25·2	43·4		19·8		−·0048	·0000	− 2·6	+ 4·1	−·0003
57	24·2	42·8		19·3		−·0049	−·0001	− 3·4	+ 4·1	−·0004

1843. Toronto. March 6—7.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
6 23 02	23·8	41·9	37·8	18·3	39·8	−·0050	−·0002	− 3·7	+ 4·1	−·0005
07	23·9	39·7		17·0		−·0052	−·0003	− 3·7	+ 4·1	−·0006
12	24·0	38·3		16·9		−·0053	−·0003	− 3·7	+ 4·2	−·0006
17	24·0	38·7		16·9		−·0053	−·0003	− 3·7	+ 4·2	−·0006
22	24·3	40·2		17·3		−·0051	−·0003	− 3·6	+ 4·1	−·0006
27	26·1	39·6		16·9		−·0051	−·0003	− 2·4	+ 4·1	−·0006
32	26·0	42·8		18·2		−·0048	−·0002	− 2·6	+ 3·9	−·0005
37	26·0	43·8		18·2		−·0047	−·0002	− 2·6	+ 3·8	−·0005
42	26·3	46·8		19·0		−·0044	−·0002	− 2·5	+ 3·6	−·0005
47	26·1	47·0		19·0		−·0043	−·0002	− 2·7	+ 3·5	−·0005
52	26·6	49·0		19·3		−·0041	−·0001	− 2·4	+ 3·4	−·0004
57	27·4	52·9		20·6		−·0037	·0000	− 1·8	+ 3·1	−·0002
7 00 02	27·8	52·7	37·0	20·6	39·4	−·0037	·0000	− 1·6	+ 3·1	−·0002
07	29·7	54·0		20·6		−·0036	·0000	− 0·4	+ 3·1	−·0002
12	29·4	55·6		20·9		−·0035	·0000	− 0·6	+ 3·0	−·0002
17	29·0	53·4		20·8		−·0037	·0000	− 1·0	+ 3·1	−·0002
22	30·4	53·8		21·0		−·0036	·0000	− 0·1	+ 3·1	−·0002
27	32·0	54·0		21·0		−·0036	·0000	+ 1·0	+ 3·1	−·0002
32	32·2	54·5		21·3		−·0036	·0000	+ 1·1	+ 3·1	−·0002
37	33·0	51·7		21·8		−·0039	·0000	+ 1·5	+ 3·3	−·0003
42	33·8	52·5		22·3		−·0038	+·0001	+ 2·0	+ 3·3	−·0002
47	33·6	52·0		23·3		−·0039	+·0001	+ 1·8	+ 3·4	−·0002
52	33·6	50·0		23·6		−·0041	+·0002	+ 1·7	+ 3·6	−·0001
57	32·3	48·3		24·6		−·0042	+·0002	+ 0·7	+ 3·7	−·0001
01 02	32·0	45·0	35·8	24·6	38·2	−·0046	+·0002	+ 0·4	+ 4·1	−·0001
07	31·8	43·0		24·4		−·0048	+·0002	+ 0·1	+ 4·2	−·0001
12	30·8	37·3		24·4		−·0053	+·0002	− 0·6	+ 4·6	−·0002
17	30·4	37·9		24·4		−·0052	+·0002	− 1·1	+ 4·6	−·0001
22	31·1	37·9		24·4		−·0052	+·0002	− 0·6	+ 4·6	−·0001
27	31·0	39·1		24·4		−·0051	+·0002	− 0·8	+ 4·5	−·0001
32	30·5	41·1		24·5		−·0049	+·0002	− 1·3	+ 4·3	−·0001
37	29·2	40·4		24·6		−·0050	+·0002	− 2·4	+ 4·4	−·0001
42	30·1	41·8		24·6		−·0048	+·0002	− 1·8	+ 4·2	−·0001
47	30·3	43·4		25·1		−·0046	+·0003	− 1·8	+ 4·1	·0000
52	29·8	41·0		25·1		−·0049	+·0003	− 2·3	+ 4·4	·0000
57	28·3	40·0		24·3		−·0050	+·0002	− 3·5	+ 4·4	−·0001
02 02	28·7	39·5	35·8	24·6	37·4	−·0050	+·0002	− 3·3	+ 4·4	−·0001
07	29·2	40·0		24·6		−·0049	+·0002	− 2·8	+ 4·3	−·0001
12	29·8	41·1		24·3		−·0048	+·0002	− 2·4	+ 4·2	−·0001
17	29·3	41·3		24·3		−·0047	+·0002	− 2·7	+ 4·1	−·0001
03 02	31·6	43·2	36·9	24·7	37·7	−·0042	+·0002	− 0·6	+ 3·7	−·0001

1843. Van Diemen Island. March.

VAN DIEMEN ISLAND, 1843. MARCH 7.

MEAN MONTHLY READINGS OF THE MAGNETOMETERS.

Mean Göttingen Time.	Declination.	H. F. at 63°·9.	V. F. at 62°·4.	Mean Göttingen Time.	Declination.	H. F. at 63°·9.	V. F. at 62°·4.
Hours.	Sc. Div.	Sc. Div.	Sc. Div.	Hours.	Sc. Div.	Sc. Div.	Sc. Div.
00	89·0	73·2	52·0	12	83·9	66·3	47·2
01	88·6	73·1	51·4	13	85·0	62·7	50·8
02	88·2	72·5	51·7	14	87·9	61·4	53·0
03	88·0	72·5	51·9	15	91·5	62·3	53·4
04	88·0	72·0	51·0	16	94·4	65·3	53·1
05	89·1	72·5	48·8	17	96·0	69·3	52·9
06	88·4	72·1	46·6	18	95·8	71·9	53·1
07	88·1	72·1	45·5	19	94·0	72·5	54·2
08	88·2	72·3	45·2	20	91·7	73·7	54·4
09	87·9	71·1	44·8	21	90·8	72·8	53·7
10	86·7	70·8	44·5	22	90·5	73·4	52·7
11	85·0	69·1	45·4	23	89·7	73·5	52·3

Coefficients (A), Approximate Absolute Values (B.)

(A)
- Declin. $a = 0'·71$
- H. F. $k = ·000120$, $q = ·000234$
- V. F. $k = ·000040$, $q = ·00021$

(B) Approx.
- $\psi = -9°55'$
- $X = 4·51$
- $Y = 12·86$
- $\theta = -70°37'$
- $\phi = 13·62$

1843.
Van Diemen Island.

March 7.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
7 01 02	80·3	73·1	68·0	27·5	66·0	+·0010	−·0002	− 5·9	− 1·3	−·0001
08	81·2	74·5		25·4		+·0011	−·0003	− 5·3	− 1·5	−·0002
14	80·7	77·0		23·9		+·0014	−·0003	− 5·5	− 1·8	−·0001
20	83·0	77·4		23·3		+·0015	−·0004	− 3·9	− 1·9	−·0002
26	84·0	76·1		24·4		+·0013	−·0003	− 3·1	− 1·7	−·0001
32	85·7	71·5		29·3		+·0008	−·0001	− 1·9	− 1·0	·0000
38	88·3	65·9		35·4		+·0001	+·0001	− 0·1	0·0	+·0001
44	88·8	61·9		38·8		−·0003	+·0002	+ 0·4	+ 0·4	+·0001
50	87·5	60·2		40·9		−·0005	+·0003	− 0·6	+ 0·9	+·0002
56	86·1	60·1		40·8		−·0005	+·0003	− 1·5	+ 0·9	+·0002
02 02	82·7	60·9	68·0	39·4	66·0	−·0004	+·0003	− 3·9	+ 0·8	+·0002
08	81·6	61·7		39·0		−·0003	+·0002	− 4·7	+ 0·4	+·0001
14	81·8	63·3		38·4		−·0002	+·0002	− 4·5	+ 0·4	+·0002
20	81·9	65·0		36·9		·0000	+·0001	− 4·4	+ 0·1	+·0001
26	82·1	64·4		36·1		+·0001	+·0001	− 4·3	+ 0·2	+·0001
32	81·6	63·9		35·0		+·0001	·0000	− 4·6	+ 0·1	·0000
38	80·7	61·7		35·8		−·0004	+·0001	− 5·3	+ 0·4	·0000
44	80·3	59·7		37·0		−·0007	+·0001	− 5·5	+ 0·9	·0000
50	80·6	58·7		40·1		−·0008	+·0002	− 5·3	+ 1·1	+·0001
03 02	81·4	57·0	67·4	40·1	65·5	−·0010	+·0002	− 4·7	+ 1·3	+·0001
04 02	81·4	60·5	66·6	30·7	64·6	−·0007	−·0003	− 4·7	+ 0·4	−·0003
05 02	89·4	69·5	65·6	30·7	64·0	+·0001	−·0004	+ 0·2	− 0·5	−·0003
38	78·7	72·6		18·1		+·0003	−·0009	− 7·1	− 1·3	−·0008
44	79·5	72·4		20·5		+·0003	−·0008	− 6·5	− 1·2	−·0007
50	80·7	69·1		21·8		−·0001	−·0007	− 5·5	− 0·7	−·0006
56	80·1	66·6		23·2		−·0004	−·0007	− 6·0	− 0·3	−·0007
06 02	78·1	65·1	64·8	25·0	63·6	−·0006	−·0006	− 7·3	0·0	−·0006
08	77·3	64·0		25·6		−·0008	−·0006	− 7·9	+ 0·2	−·0006
14	75·3	64·1		25·9		−·0008	−·0006	− 9·2	+ 0·2	−·0006
20	74·3	65·0		24·6		−·0006	−·0006	− 9·9	0·0	−·0006
26	73·1	65·8		24·6		−·0006	−·0006	−10·8	0·0	−·0006
32	73·3	66·8		24·7		−·0004	−·0006	−10·6	− 0·2	−·0006
38	74·0	68·4		23·9		−·0003	−·0006	−10·1	− 0·3	−·0006
44	74·1	67·0		24·4		−·0004	−·0006	−10·0	− 0·2	−·0006
50	74·5	69·0		24·6		−·0002	−·0007	− 9·7	− 0·4	−·0006
07 02	76·3	70·8	64·6	25·1	63·6	·0000	−·0006	− 8·4	− 0·7	−·0005

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Cape of Good Hope.

March.

CAPE OF GOOD HOPE, 1843. MARCH 7.

MEAN MONTHLY READINGS OF THE MAGNETOMETERS.

Mean Göttingen Time.	Declination.	H. F. at 67°·1.	V. F. at 67°·0.	Mean Göttingen Time.	Declination.	H. F. at 67°·1.	V. F. at 67°·0.
Hours.	Sc. Div.	Sc. Div.	Sc. Div.	Hours.	Sc. Div.	Sc. Div.	Sc. Div.
00	41·9	87·4	29·8	12	42·0	86·5	35·6
01	43·6	87·8	29·4	13	42·3	87·5	35·2
02	44·0	88·1	31·3	14	42·2	87·9	34·9
03	43·7	87·7	33·6	15	42·0	87·6	35·3
04	43·1	87·5	35·4	16	42·1	87·6	35·4
05	42·3	87·2	36·3	17	41·9	87·5	35·3
06	42·2	86·3	36·4	18	41·5	87·7	36·3
07	42·2	85·2	36·5	19	40·1	88·7	37·5
08	42·2	84·8	36·3	20	37·7	89·1	39·2
09	42·2	85·3	35·8	21	36·2	88·4	38·0
10	42·0	85·7	35·9	22	37·2	87·2	34·9
11	42·1	85·5	35·7	23	39·8	86·9	31·4

Coefficients (A), Approximate Absolute Values (B.)

(A) Declin. $a = 0'\cdot751$

H. F. $k = \cdot00018$, $q = \cdot00029$

V. F. $k = \cdot00015$, $q = \cdot00005$

(B) Approx. $\psi = 29°\,05'$, $X = 4\cdot46$, $Y = 6\cdot00$, $\theta = -\,53°\,14'$, $\phi = 7\cdot50$

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OBSERVATIONS OF THE MAGNETOMETERS. The Declination was observed 2m. before, and the V. F. 1m. after the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	″	Parts of Total Force.
7 05 02	39·6	72·7	68·9	43·1	68·2	−·0021	+·0011	− 2·0	+ 5·3	·0000
17	—	72·1		45·2		−·0022	+·0014	—	+ 5·9	+·0001
22	38·9	72·8		45·1		−·0020	+·0014	− 2·6	+ 5·6	+·0002
27	37·9	73·4		45·0		−·0019	+·0014	− 3·3	+ 5·4	+·0002
32	37·2	73·8		44·7		−·0018	+·0013	− 3·8	+ 5·1	+·0002
37	37·1	73·7		43·9		−·0018	+·0012	− 3·9	+ 4·9	+·0001
42	37·3	73·1		43·7		−·0019	+·0012	− 3·7	+ 5·1	+·0001
47	37·7	72·5		43·2		−·0020	+·0011	− 3·4	+ 6·1	·0000
52	37·8	71·6		43·2		−·0021	+·0011	− 3·3	+ 5·3	·0000
57	38·0	71·7		43·1		−·0021	+·0011	− 3·2	+ 5·3	·0000
06 02	38·1	71·2	68·9	42·6	68·6	−·0022	+·0010	− 3·1	+ 5·3	−·0001
07	38·2	70·9		42·6		−·0022	+·0010	− 3·0	+ 5·3	−·0001
12	38·2	70·3		42·5		−·0023	+·0010	− 3·0	+ 5·4	−·0002
17	38·5	70·2		42·5		−·0023	+·0010	− 2·8	+ 5·4	−·0002
22	38·4	69·8		42·3		−·0024	+·0010	− 2·9	+ 5·6	−·0002
27	38·6	69·8		42·4		−·0023	+·0010	− 2·7	+ 5·4	−·0002
32	38·6	69·5		42·4		−·0024	+·0010	− 2·7	+ 5·6	−·0002
37	38·7	69·9		42·4		−·0023	+·0010	− 2·6	+ 5·4	−·0002
42	38·5	69·3		42·2		−·0024	+·0010	− 2·8	+ 5·6	−·0002
47	38·9	69·1		42·1		−·0024	+·0009	− 2·5	+ 5·4	−·0003
52	39·0	68·8		42·2		−·0024	+·0010	− 2·4	+ 5·6	−·0002
57	39·0	68·8		42·2		−·0024	+·0010	− 2·4	+ 5·3	−·0002
07 02	39·1	68·7	69·1	41·9	68·8	−·0024	+·0009	− 2·3	+ 5·4	−·0003
07	39·2	68·3		41·9		−·0025	+·0009	− 2·3	+ 5·6	−·0003
12	39·1	68·4		42·3		−·0024	+·0010	− 2·3	+ 5·5	−·0002
17	38·8	68·2		42·6		−·0025	+·0010	− 2·6	+ 5·8	−·0003
22	38·7	68·2		42·6		−·0025	+·0010	− 2·6	+ 5·8	−·0003
27	38·8	68·2		42·5		−·0025	+·0010	− 2·6	+ 5·8	−·0003
32	38·8	68·5		42·5		−·0024	+·0010	− 2·6	+ 5·6	−·0002
37	38·8	68·1		42·3		−·0025	+·0010	− 2·5	+ 5·8	−·0003
42	38·9	67·2		42·5		−·0026	+·0010	− 2·5	+ 5·9	−·0003
47	38·9	66·4		42·9		−·0028	+·0011	− 2·5	+ 6·4	−·0003
52	38·9	65·9		43·3		−·0028	+·0011	− 2·5	+ 6·4	−·0003
57	38·8	65·7		43·3		−·0029	+·0011	− 2·6	+ 6·6	−·0003
08 02	38·4	65·8	69·1	43·3	68·8	−·0028	+·0011	− 2·9	+ 6·4	−·0003
07	38·2	66·6		43·2		−·0027	+·0011	− 3·0	+ 6·3	−·0003
12	38·5	67·8		42·0		−·0025	+·0010	− 2·8	+ 5·8	−·0003
17	38·9	68·5		41·3		−·0024	+·0009	− 2·5	+ 5·4	−·0003
22	38·9	68·9		40·5		−·0023	+·0008	− 2·5	+ 5·1	−·0003
27	39·0	69·3		39·8		−·0023	+·0007	− 2·4	+ 4·9	−·0004
32	39·2	70·2		39·1		−·0021	+·0006	− 2·3	+ 4·4	−·0004
37	39·5	72·0		38·2		−·0018	+·0004	− 2·0	+ 3·6	−·0004
42	39·8	71·9		37·4		−·0018	+·0003	− 1·8	+ 3·5	−·0004
47	40·0	73·0		36·5		−·0017	+·0002	− 1·7	+ 3·1	−·0005
52	40·0	73·8		35·9		−·0015	+·0001	− 1·7	+ 2·6	−·0005
57	40·1	74·2		35·2		−·0015	·0000	− 1·6	+ 2·5	−·0005
09 02	40·1	74·6	69·0	35·1	68·8	−·0014	·0000	− 1·6	+ 2·3	−·0005
07	40·1	74·9		34·9		−·0013	−·0001	− 1·6	+ 2·0	−·0005
12	40·0	75·2		34·5		−·0013	−·0001	− 1·7	+ 2·0	−·0005
17	40·1	75·2		34·5		−·0013	−·0001	− 1·6	+ 2·0	−·0005
22	40·0	74·1		34·5		−·0015	−·0001	− 1·6	+ 2·3	−·0006
27	39·9	74·0		34·5		−·0015	−·0001	− 1·7	+ 2·3	−·0006
32	39·8	74·9		34·5		−·0014	−·0001	− 1·7	+ 2·1	−·0006
37	40·0	75·7		34·9		−·0012	−·0001	− 1·6	+ 1·8	−·0005
42	40·0	75·8		34·3		−·0012	−·0002	− 1·6	+ 1·7	−·0006
47	40·1	75·8		34·3		−·0012	−·0002	− 1·5	+ 1·7	−·0006
52	40·1	76·2		34·2		−·0012	−·0002	− 1·4	+ 1·7	−·0006
57	40·2	76·6		33·8		−·0011	−·0002	− 1·4	+ 1·5	−·0005
10 02	40·7	77·0	68·9	33·8	68·8	−·0010	+·0002	− 1·0	+ 2·0	−·0002

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Toronto.

March 22.

For Mean Monthly Readings, *see* page 187.

TORONTO, 1843. MARCH 22—23.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
						$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta \psi$	$\Delta \theta$	$\frac{\Delta \phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
22 10 02	121·0	100·4	44·8	15·4	44·4	+·0020	·0000	− 1·3	− 1·7	+·0001
07	121 2	100·2		15·4		+·0020	·0000	− 1·1	− 1·7	+·0001
12	121·3	99·2		14·8		+·0019	−·0001	− 1·0	− 1·7	·0000
17	121·9	100·1		14·8		+·0020	−·0001	− 0·6	− 1 8	·0000
22	122·7	99·9		14·8		+·0020	−·0001	0·0	− 1·8	·0000
27	122·8	100·8		14·3		+·0021	−·0002	+ 0·1	− 1·9	·0000
32	123·2	101·2		14·3		+·0022	−·0002	+ 0·4	− 2·0	·0000
37	123·9	100·3		14·3		+·0021	−·0001	+ 0·9	− 1·9	·0000
42	123·9	104·9		14·3		+·0026	−·0001	+ 1·0	− 2·3	+·0001
47	123·6	109·7		15·2		+·0030	−·0001	+ 0·8	− 2·6	+·0001
52	124·2	105·4		14·9		+·0026	−·0001	+ 1·2	− 2·3	+·0001
57	124·5	104·3		14·9		+·0025	−·0001	+ 1·5	− 2·2	+·0001
11 02	124·7	104·6	45·4	14·9	44·7	+·0026	−·0001	+ 1·6	− 2·3	+·0001
07	124·7	104·8		14·9		+·0026	−·0001	+ 1·4	− 2·3	+·0001
12	124·5	103·3		14·9		+·0025	−·0001	+ 1·1	− 2·2	+·0001
17	124·6	103·1		14·5		+·0025	−·0001	+ 1·0	− 2·2	+·0001
22	125·0	101·9		14·5		+·0024	−·0001	+ 1·1	− 2·1	+·0001
27	125·0	103·4		14·5		+·0026	−·0001	+ 0·9	− 2·3	+·0001
32	125·7	101·1		14·9		+·0024	−·0001	+ 1·2	− 2·1	+·0001
37	125·1	100·2		14·9		+·0023	−·0001	+ 0·6	− 2·0	+·0001
42	125·0	98·5		14·5		+·0021	−·0002	+ 0·4	− 1·9	·0000
47	125·4	97·4		14·5		+·0020	−·0002	+ 0·4	− 1·9	−·0001
52	125·5	97·8		14·5		+·0021	−·0001	+ 0·3	− 1·9	·0000
57	125·4	97·5		14·5		+·0021	−·0002	+ 0·1	− 1·9	·0000
12 02	125·7	97·0	45·5	14·5	44·9	+·0021	−·0002	+ 0·1	− 1·9	·0000
07	126·0	99·1		15·1		+·0023	−·0001	+ 0·2	− 2·0	+·0001
12	125·8	99·7		15·1		+·0024	−·0001	0·0	− 2·1	+·0001
17	125·9	101·0		15·1		+·0025	−·0001	+ 0·1	− 2·2	+·0001
22	126·3	103·3		15·1		+·0028	−·0001	+ 0·3	− 2·4	+·0001
27	126·3	103·2		14·9		+·0028	−·0001	+ 0·2	− 2·4	+·0001
32	126·2	103·4		14·8		+·0028	−·0001	+ 0·1	− 2·4	+·0001
37	126·3	102·9		14·8		+·0028	−·0001	+ 0·1	− 2·4	+·0001
42	126·8	103·5		13·8		+·0029	−·0002	+ 0·4	− 2·6	·0000
47	126·8	100·9		13·8		+·0026	−·0002	+ 0·4	− 2·4	·0000
52	126·1	98·6		13·8		+·0024	−·0002	− 0·2	− 2·2	·0000
57	126·6	93·7		14·4		+·0020	−·0002	+ 0·1	− 1·9	−·0001
13 02	128·0	94·3	45·5	15·5	45·7	+·0020	−·0001	+ 1·0	− 1·8	·0000
07	128·1	88·3		15·1		+·0015	−·0001	+ 1·0	− 1 4	·0000
12	132·3	81·9		15·1		+·0009	−·0001	+ 3·9	− 0·9	·0000
17	137·4	80·0		15·8		+·0007	·0000	+ 7·4	− 0·6	·0000
22	140·1	80·0		16·1		+·0007	·0000	+ 9·2	− 0·6	·0000
27	141·0	81·1		16·1		+·0008	·0000	+ 9·9	− 0·7	·0000
32	139·1	81·1		15·7		+·0009	−·0001	+ 8·4	− 0·9	·0000
37	139·6	80·4		15·7		+·0008	−·0001	+ 8·6	− 0·8	·0000
42	138·0	81·3		15·7		+·0009	−·0001	+ 7·4	− 0·9	·0000
47	139·1	79·0		15·7		+·0007	−·0001	+ 8·0	− 0·7	−·0001
52	141·4	79·0		15·7		+·0007	−·0001	+ 9·7	− 0·7	−·0001
57	139·4	79·0		16·5		+·0008	·0000	+ 8·0	− 0·7	·0000
14 02	137·0	80·0	45·2	16·5	45·6	+·0009	·0000	+ 6·3	− 0·8	+·0001
07	135·0	81·0		16·7		+·0010	·0000	+ 4·8	− 0·9	+·0001
12	134·0	82·5		16·7		+·0011	·0000	+ 4·0	− 0·9	+·0001
17	133·0	83·0		16·7		+·0011	·0000	+ 3·3	− 0·9	+·0001
22	131·2	84·0		17·0		+·0012	·0000	+ 2·0	− 1·0	+·0001
27	130·1	85·2		17·0		+·0013	·0000	+ 1·2	− 1·1	+·0001
32	130·8	88·0		17·0		+·0016	·0000	+ 1·6	− 1·4	+·0001
37	130·6	88·7		17·0		+·0017	·0000	+ 1·5	− 1·4	+·0001
42	130·8	89·0		17·1		+·0017	·0000	+ 1·6	− 1·4	+·0001
47	131·9	90·0		16·9		+·0018	·0000	+ 2·5	− 1·5	+·0001
52	131·0	90·0		17·0		+·0017	·0000	+ 1·7	− 1·4	+·0001
57	131·0	90·0		17·0		+·0017	·0000	+ 1·7	− 1·4	+·0001

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Toronto.

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OBSERVATIONS OF THE MAGNETOMETERS. The Declination was observed 2m. before, and the V. F. 1m. after the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
22 15 02	130·3	90·1	44·8	17·0	44·9	+·0017	·0000	+ 1·2	− 1·4	+·0001
07	129·4	90·4		17·0		+·0018	·0000	+ 0·5	− 1·5	+·0001
12	132·1	94·0		17·0		+·0021	·0000	+ 2·4	− 1·8	+·0001
17	132·4	94·0		16·4		+·0021	−·0001	+ 2·6	− 1·9	+·0001
22	131·0	93·0		16·4		+·0019	−·0001	+ 1·5	− 1·7	·0000
27	131·0	91·5		16·5		+·0018	−·0001	+ 1·4	− 1·6	·0000
32	132·0	92·3		16·5		+·0019	−·0001	+ 2·8	− 1·7	·0000
37	133·5	94·0		16·5		+·0021	−·0001	+ 3·2	− 1·9	·0000
42	134·0	95·0		16·5		+·0021	−·0001	+ 3·5	− 1·9	·0000
47	133·2	95·4		16·4		+·0022	−·0001	+ 2·8	− 1·9	+·0001
52	132·4	94·0		16·4		+·0020	−·0001	+ 2·2	− 1·8	·0000
57	131·8	93·8		16·4		+·0020	−·0001	+ 1·7	− 1·8	·0000
16 02	131·4	93·3	44·2	16·1	44·8	+·0019	−·0001	+ 1·3	− 1·7	·0000
07	130·0	93·0		16·2		+·0019	−·0001	+ 0·4	− 1·7	·0000
12	130·0	93·9		16·2		+·0020	−·0001	+ 0·4	− 1·8	·0000
17	129·0	93·6		16·2		+·0019	−·0001	− 0·2	− 1·7	·0000
22	129·2	95·8		16·2		+·0021	−·0001	0·0	− 1·9	·0000
27	129·5	95·0		16·2		+·0020	−·0001	+ 0·2	− 1·8	·0000
32	129·5	94·9		16·2		+·0020	−·0001	+ 0·3	− 1·8	·0000
37	130·1	94·8		16·2		+·0019	−·0001	+ 0·8	− 1·7	·0000
42	129·2	94·5		16·6		+·0019	−·0001	+ 0·1	− 1·7	·0000
47	128·6	94·5		16·6		+·0019	−·0001	− 0·2	− 1·7	·0000
52	128·5	94·6		16·8		+·0019	·0000	− 0·1	− 1·6	+·0001
57	128·7	95·0		16·8		+·0019	·0000	0·0	− 1·6	+·0001
17 02	128·3	94·8	43·6	16·7	44·4	+·0018	−·0001	− 0·3	− 1·6	·0000
07	128·3	95·0		16·7		+·0018	−·0001	− 0·2	− 1·6	·0000
12	128·5	94·8		16·7		+·0018	·0000	− 0·1	− 1·5	+·0001
17	128·0	95·0		16·7		+·0019	·0000	− 0·4	− 1·6	+·0001
22	128·0	95·7		16·3		+·0019	−·0001	− 0·4	− 1·7	·0000
27	128·0	96·7		16·3		+·0020	−·0001	− 0·3	− 1·8	·0000
32	128·0	97·5		16·3		+·0021	−·0001	− 0·3	− 1·9	·0000
37	127·4	98·3		16·3		+·0021	−·0001	− 0·6	− 1·9	·0000
42	127·4	98·6		16·3		+·0022	−·0001	− 0·6	− 1·9	+·0001
47	127·0	98·9		16·3		+·0023	−·0001	− 0·8	− 2·0	+·0001
52	127·0	98·7		16·3		+·0023	−·0001	− 0·8	− 2·0	+·0001
57	127·1	98·6		16·4		+·0022	·0000	− 0·7	− 1·9	+·0001
18 02	125·4	96·0	43·3	15·5	43·8	+·0021	−·0001	− 1·8	− 1·9	·0000
07	126·6	97·7		15·5		+·0021	−·0001	− 1·0	− 1·9	·0000
12	125·8	99·3		15·6		+·0023	−·0001	− 1·5	− 2·0	+·0001
17	125·4	100·0		15·1		+·0023	−·0001	− 1·8	− 2·0	+·0001
22	126·4	100·0		15·1		+·0023	−·0001	− 1·1	− 2·0	+·0001
27	126·5	98·8		15·1		+·0022	−·0001	− 1·1	− 1·9	+·0001
32	127·0	97·8		15·1		+·0020	−·0001	− 0·7	− 1·8	·0000
37	127·0	97·8		14·4		+·0020	−·0002	− 0·8	− 1·9	−·0001
42	127·1	96·9		14·4		+·0019	−·0002	− 0·7	− 1·8	−·0001
47	127·0	95·9		14·1		+·0018	−·0002	− 0·8	− 1·7	−·0001
52	126·7	96·9		14·1		+·0019	−·0002	− 1·0	− 1·8	−·0001
57	124·3	100·2		14·3		+·0022	−·0002	− 2·8	− 2·0	·0000
19 02	123·6	103·4	42·5	14·8	43·6	+·0025	−·0001	− 3·3	− 2·2	+·0001
07	123·0	103·7		14·7		+·0025	−·0002	− 3·7	− 2·3	·0000
12	122·9	104·9		14·7		+·0026	−·0002	− 3·7	− 2·4	·0000
17	122·0	103·8		15·0		+·0025	−·0002	− 4·4	− 2·3	·0000
22	123·0	104·7		14·6		+·0026	−·0002	− 3·6	− 2·4	·0000
27	124·2	104·7		15·4		+·0025	−·0001	− 2·8	− 2·2	+·0001
32	124·2	102·5		15·4		+·0023	−·0001	− 2·8	− 2·0	+·0001
37	125·5	104·8		15·6		+·0025	−·0001	− 1·8	− 2·2	+·0001
42	126·3	101·9		14·6		+·0022	−·0002	− 1·2	− 2·0	·0000
47	127·4	103·7		14·6		+·0023	−·0002	− 0·4	− 2·1	·0000
52	128·3	103·6		14·4		+·0023	−·0003	+ 0·3	− 2·2	−·0001
57	128·1	105·0		14·4		+·0025	−·0002	+ 0·1	− 2·3	·0000
20 02	128·3	104·6	41·6	14·4	42·2	+·0024	−·0003	+ 0·3	− 2·3	−·0001
07	129·3	104·4		14·1		+·0024	−·0003	+ 1·0	− 2·3	−·0001

1843.
Toronto.

March 22—23.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
22 20 12	130·5	99·6		14·3		+·0019	−·0003	+ 1·8	− 1·9	−·0002
17	130·5	103·6		14·7		+·0023	−·0003	+ 1·8	− 2·2	−·0001
22	130·0	101·8		15·1		+·0021	−·0002	+ 1·3	− 1·9	·0000
27	131·2	102·1		15·1		+·0021	−·0003	+ 2·3	− 2·0	−·0001
32	131·8	105·7		15·4		+·0024	−·0002	+ 2·7	− 2·2	·0000
37	130·7	104·3		15·8		+·0022	−·0002	+ 1·8	− 2·0	·0000
42	130·4	103·6		15·8		+·0021	−·0002	+ 1·5	− 1·9	·0000
47	129·6	106·5		16·0		+·0024	−·0002	+ 0·9	− 2·2	·0000
52	128·3	104·6		16·7		+·0023	−·0001	0·0	− 2·0	+·0001
57	130·1	103·3		16·7		+·0022	−·0002	+ 1·2	−·2·0	+·0001
21 02	131·0	105·1	41·2	16·3	41·6	+·0022	−·0002	+ 1·8	− 2·0	+·0001
07	129·5	105·9		16·3		+·0023	−·0002	+ 0·8	− 2·1	·0000
12	127·3	99·6		15·8		+·0016	−·0003	+ 0·8	− 1·6	−·0002
17	129·2	99·6		15·6		+·0016	−·0003	+ 0·6	− 1·6	−·0002
22	129·0	100·4		15·6		+·0017	−·0003	+ 0·4	− 1·7	−·0002
27	127·1	100·2		15·8		+·0016	−·0003	− 0·9	− 1·6	−·0002
32	126·8	101·7		16·0		+·0017	−·0003	− 1·1	− 1·7	−·0002
37	126·4	102·6		16·2		+·0018	−·0002	− 1·4	− 1·7	−·0001
42	124·7	102·6		16·7		+·0018	−·0002	− 2·7	− 1·7	−·0001
47	124·0	102·6		17·3		+·0018	−·0001	− 3·2	− 1·6	·0000
52	124·0	104·4		17·3		+·0019	−·0001	− 3·2	− 1·7	·0000
57	123·9	104·6		17·3		+·0019	−·0002	− 3·3	− 1·8	−·0001
22 02	125·5	105·7	40·4	17·3	41·4	+·0020	−·0002	− 2·0	− 1·9	−·0001
07	127·8	103·7		16·8		+·0018	−·0002	− 0·4	− 1·7	−·0001
12	128·9	107·5		16·7		+·0022	−·0002	+ 0·3	− 2·0	·0000
17	129·8	107·2		17·3		+·0021	−·0002	+ 0·9	− 1·9	·0000
22	130·5	108·8		17·3		+·0023	−·0002	+ 1·3	− 2·1	·0000
27	130·6	106·6		17·2		+·0020	−·0002	+ 1·4	− 1·9	−·0001
32	130·8	106·5		17·4		+·0020	−·0002	+ 1·5	− 1·9	−·0001
37	130·2	107·0		17·4		+·0020	−·0002	+ 1·1	− 1·9	−·0001
42	130·8	107·6		17·6		+·0020	−·0002	+ 1·5	− 1·9	−·0001
47	130·5	108·0		17·7		+·0021	−·0002	+ 1·2	− 1·9	·0000
52	130·2	108·3		18·0		+·0021	−·0001	+ 1·0	− 1·9	·0000
57	130·4	108·1		18·1		+·0020	−·0001	+ 1·1	− 1·8	·0000
23 02	130·5	108·4	39·5	18·0	40·4	+·0021	−·0002	+ 1·1	− 1·9	·0000
07	130·9	108·5		18·0		+·0021	−·0002	+ 1·3	− 1·9	·0000
12	130·9	108·1		18·2		+·0021	−·0001	+ 1·3	− 1·9	·0000
17	131·0	107·6		18·0		+·0021	−·0002	+ 1·3	− 1·9	·0000
22	131·1	109·0		18·1		+·0022	−·0002	+ 1·3	− 2·0	·0000
27	130·9	108·5		17·9		+·0022	−·0002	+ 1·1	− 2·0	·0000
32	131·0	109·8		18·3		+·0023	−·0001	+ 1·1	− 2·0	+·0001
37	130·1	109·7		18·3		+·0024	−·0002	+ 0·4	− 2·2	·0000
42	130·7	111·0		19·3		+·0025	−·0001	+ 0·7	− 2·2	+·0001
47	131·9	110·6		19·4		+·0025	−·0001	+ 1·5	− 2·2	+·0001
52	132·0	111·6		19·4		+·0026	−·0001	+ 1·5	− 2·3	+·0001
57	132·0	111·5		19·2		+·0027	−·0001	+ 1·4	− 2·4	+·0001
23 00 02	132·7	108·1	39·1	19·2	40·2	+·0023	−·0001	+ 1·8	− 2·0	+·0001
07	132·1	108·0		18·9		+·0023	−·0001	+ 1·3	− 2·0	+·0001
12	132·6	107·8		18·8		+·0023	−·0001	+ 1·6	− 2·0	+·0001
17	132·6	108·3		18·8		+·0023	−·0001	+ 1·5	− 2·0	+·0001
22	132·2	107·9		18·7		+·0023	−·0002	+ 1·2	− 2·1	·0000
27	132·8	107·4		20·9		+·0023	·0000	+ 1·5	− 1·9	+·0002
32	132·9	108·9		21·1		+·0024	+·0001	+ 1·5	− 2·1	+·0001
37	132·4	108·1		21·1		+·0023	+·0001	+ 1·1	− 2·0	+·0001
42	131·8	108·6		21·8		+·0024	+·0001	+ 0·6	− 2·1	+·0001
47	131·3	108·3		21·8		+·0023	+·0001	+ 0·1	− 2·0	+·0001
52	133·0	108·7		20·2		+·0024	+·0001	+ 1·3	− 2·1	+·0001
57	133·8	109·9		20·2		+·0024	+·0001	+ 1·8	− 2·1	+·0001
01 02	133·5	109·2	38·1	21·4	40·0	+·0024	+·0001	+ 1·5	− 2·1	+·0001
07	133·8	109·3		21·4		+·0024	+·0001	+ 1·5	− 1·9	+·0003
12	134·4	110·4		21·4		+·0026	+·0001	+ 1·9	− 2·1	+·0003
17	134·4	109·9		21·4		+·0025	+·0001	+ 1·8	− 2·0	+·0003

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
						$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta \psi$	$\Delta \theta$	$\frac{\Delta \phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
23 01 22	135·0	109·2		21·0		+·0024	·0000	+ 2·2	− 2·0	+·0002
27	135·1	108·8		21·0		+·0024	·0000	+ 2·0	− 2·0	+·0002
32	135·0	107·1		21·0		+·0022	·0000	+ 1·9	− 1·9	+·0001
37	133·7	107·0		21·6		+·0022	+·0001	+ 0·8	− 1·8	+·0002
42	133·6	107·2		21·6		+·0022	+·0001	+ 0·7	− 1·8	+·0002
47	133·5	107·1		21·1		+·0022	·0000	+ 0·5	− 1·9	+·0001
52	133·8	105·5		21·1		+·0021	·0000	+ 0·6	− 1·8	+·0001
57	134·4	104·4		21·6		+·0020	+·0001	+ 1·6	− 1·6	+·0002
02 02	134·0	104·6	37·8	21·6	39·7	+·0020	+·0002	+ 0·6	− 1·5	+·0003
07	134·2	105·0		21·4		+·0021	+·0002	+ 0·8	− 1·6	+·0003
12	134·9	105·0		21·4		+·0021	+·0002	+ 1·3	− 1·6	+·0003
17	135·0	105·0		21·9		+·0021	+·0003	+ 1·4	− 1·5	+·0004
22	134·6	108·7		21·9		+·0025	+·0003	+ 1·2	− 1·9	+·0004
27	134·8	105·6		21·9		+·0022	+·0003	+ 1·3	− 1·6	+·0004
32	135·7	103·1		21·9		+·0020	+·0003	+ 2·0	− 1·4	+·0004
37	135·5	105·0		21·9		+·0022	+·0003	+ 2·0	− 1·6	+·0004
42	134·3	104·7		21·6		+·0022	+·0002	+ 1·1	− 1·7	+·0003
47	134·0	102·3		21·6		+·0019	+·0002	+ 1·0	− 1·4	+·0003
52	135·7	103·2		21·7		+·0020	+·0003	+ 2·3	− 1·4	+·0004
57	134·7	103·1		22·3		+·0020	+·0003	+ 1·5	− 1·4	+·0004
03 02	135·0	104·3	37·8	22·3	39·4	+·0022	+·0003	+ 1·8	− 1·6	+·0004
07	135·0	103·6		21·7		+·0021	+·0003	+ 2·0	− 1·5	+·0004
12	133·5	104·8		22·8		+·0023	+·0004	+ 1·1	− 1·6	+·0005
17	133·8	105·0		21·6		+·0023	+·0003	+ 1·4	− 1·7	+·0004
22	134·2	104·0		21·6		+·0022	+·0003	+ 1·9	− 1·6	+·0004
27	133·8	103·7		22·0		+·0022	+·0003	+ 1·8	− 1·6	+·0004
32	133·4	103·5		21·9		+·0022	+·0003	+ 1·6	− 1·6	+·0004
37	133·8	101·3		21·8		+·0020	+·0003	+ 2·0	− 1·4	+·0004
42	133·4	101·9		21·8		+·0020	+·0003	+ 1·9	− 1·4	+·0004
47	133·8	101·6		21·8		+·0021	+·0004	+ 2·4	− 1·4	+·0005
52	133·1	101·3		21·7		+·0020	+·0003	+ 2·0	− 1·4	+·0004
57	133·2	101·3		20·7		+·0021	+·0003	+ 2·3	− 1·5	+·0004
04 02	132·6	100·4	38·0	20·7	39·7	+·0020	+·0003	+ 2·0	− 1·4	+·0004
07	133·3	100·9		20·7		+·0020	+·0003	+ 2·8	− 1·4	+·0004
12	133·4	101·3		20·5		+·0021	+·0003	+ 3·0	− 1·5	+·0004
17	132·1	101·0		20·2		+·0021	+·0002	+ 2·3	− 1·6	+·0003
22	131·2	98·6		20·2		+·0018	+·0002	+ 1·8	− 1·4	+·0003
27	129·8	98·0		20·2		+·0018	+·0002	+ 0·9	− 1·4	+·0003
32	129·5	96·6		20·2		+·0017	+·0002	+ 0·9	− 1·3	+·0003
37	129·1	97·1		19·9		+·0017	+·0002	+ 0·8	− 1·3	+·0003
42	129·5	100·6		19·9		+·0021	+·0002	+ 1·3	− 1·6	+·0003
47	129·2	96·8		19·9		+·0017	+·0002	+ 1·3	− 1·3	+·0003
52	129·3	96·0		19·9		+·0016	+·0002	+ 1·4	− 1·2	+·0003
57	128·7	93·5		19·9		+·0014	+·0002	+ 1·3	− 1·0	+·0003
05 02	130·0	93·3	38·0	19·7	39·7	+·0014	+·0002	+ 2·5	− 1·0	+·0003
07	128·9	92·3		19·7		+·0012	+·0002	+ 1·8	− 0·9	+·0003
12	127·6	91·8		19·7		+·0012	+·0002	+ 1·1	− 0·9	+·0003
17	127·0	91·5		19·7		+·0011	+·0002	+ 0·8	− 0·8	+·0003
22	126·7	92·8		19·7		+·0012	+·0002	+ 0·8	− 0·9	+·0003
27	126·6	94·0		20·1		+·0013	+·0002	+ 1·0	− 0·9	+·0003
32	126·3	96·6		20·2		+·0014	+·0003	+ 1·0	− 0·9	+·0004
37	126·1	95·4		20·2		+·0014	+·0003	+ 1·0	− 0·9	+·0004
42	126·4	95·6		20·2		+·0014	+·0003	+ 1·4	− 0·9	+·0004
47	126·8	97·3		20·2		+·0016	+·0003	+ 1·9	− 1·1	+·0004
52	126·5	90·6		19·8		+·0009	+·0002	+ 1·9	− 0·6	+·0002
57	125·9	92·1		19·8		+·0010	+·0002	+ 1·6	− 0·7	+·0002
06 02	125·2	89·8	38·2	19·8	39·5	+·0007	+·0001	+ 1·3	− 0·5	+·0001
07	123·2	88·7		19·8		+·0006	+·0001	0·0	− 0·4	+·0001
12	123·3	87·0		20·3		+·0004	+·0001	+ 0·3	− 0·2	+·0001
17	122·3	88·7		20·3		+·0005	+·0001	− 0·3	− 0·3	+·0001
22	121·8	86·9		20·3		+·0003	+·0001	− 0·5	− 0·2	+·0001
27	121·0	88·5		20·9		+·0005	+·0002	− 0·9	− 0·2	+·0002

1843. Toronto.

March 23.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours. $\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
23 06 32	121·1	89·9		20·7		+·0006	+·0001	− 0·7	− 0·4	+·0001
37	122·5	88·8		20·7		+·0004	+·0001	+ 0·4	− 0·2	+·0001
42	121·4	88·5		21·0		+·0004	+·0002	− 0·2	− 0·2	+·0002
47	120·5	88·2		21·0		+·0003	+·0002	− 0·7	− 0·1	+·0002
52	120·3	91·2		20·7		+·0006	+·0001	− 0·7	− 0·4	+·0001
57	120·5	87·3		20·8		+·0002	+·0001	− 0·4	− 0·1	+·0001
07 02	121·0	89·3	38·2	20·8	39·5	+·0003	+·0001	+ 0·1	− 0·2	+·0001
07	124·0	96·0		21·8		+·0010	+·0002	+ 2·3	− 0·7	+·0002
12	122·0	90·5		21·8		+·0004	+·0002	+ 0·8	− 0·2	+·0002
17	122·2	90·8		22·0		+·0004	+·0003	+ 1·0	− 0·1	+·0003
22	123·3	92·7		21·8		+·0005	+·0002	+ 1·8	− 0·2	+·0002
27	123·5	97·6		22·4		+·0010	+·0003	+ 2·0	− 0·6	+·0003
32	123·8	98·5		22·2		+·0010	+·0003	+ 2·3	− 0·6	+·0003
37	124·0	104·7		23·0		+·0016	+·0004	+ 2·4	− 1·0	+·0005
42	123·1	100·7		22·1		+·0011	+·0003	+ 1·8	− 0·7	+·0003
47	122·5	101·5		22·1		+·0012	+·0003	+ 1·3	− 0·8	+·0004
52	122·8	102·5		22·1		+·0012	+·0003	+ 1·5	− 0·8	+·0004
57	122·7	104·1		22·5		+·0013	+·0003	+ 1·5	− 0·9	+·0004
08 02	122·7	104·6	38·5	22·5	39·7	+·0012	+·0003	+ 1·5	− 0·8	+·0004
07	122·3	103·0		21·8		+·0012	+·0002	+ 1·2	− 0·9	+·0003
12	122·8	102·7		21·8		+·0011	+·0002	+ 1·5	− 0·8	+·0003
17	122·3	103·1		21·8		+·0011	+·0002	+ 1·1	− 0·8	+·0003
22	122·4	105·6		22·4		+·0013	+·0003	+ 1·1	− 0·9	+·0004
27	122·0	106·2		22·4		+·0013	+·0003	+ 0·7	− 0·9	+·0004
32	121·9	105·5		21·7		+·0012	+·0002	+ 0·6	− 0·9	+·0003
37	121·7	103·7		21·4		+·0010	+·0002	+ 0·4	− 0·7	+·0002
42	122·0	102·8		21·4		+·0009	+·0002	+ 0·5	− 0·6	+·0002
47	122·0	104·1		21·4		+·0010	+·0002	+ 0·4	− 0·7	+·0002
52	122·2	104·8		21·1		+·0010	+·0002	+ 0·5	− 0·7	+·0002
57	122·0	105·4		21·1		+·0011	+·0002	+ 0·3	− 0·8	+·0003
09 02	122·5	105·7	38·7	21·1	39·9	+·0011	+·0002	+ 0·6	− 0·8	+·0003
07	122·4	106·1		21·1		+·0011	+·0002	+ 0·4	− 0·8	+·0003
12	122·5	107·5		21·1		+·0012	+·0002	+ 0·4	− 0·9	+·0003
17	122·5	108·0		21·1		+·0012	+·0002	+ 0·4	− 0·9	+·0003
22	123·0	110·0		21·1		+·0014	+·0002	+ 0·6	− 1·0	+·0003
27	123·0	108·8		21·1		+·0013	+·0002	+ 0·6	− 0·9	+·0003
32	123·3	109·0		21·2		+·0013	+·0002	+ 0·8	− 0·9	+·0003
37	123·0	109·0		21·2		+·0013	+·0002	+ 0·5	− 0·9	+·0003
42	123·9	108·9		21·2		+·0012	+·0002	+ 1·1	− 0·9	+·0003
47	123·5	109·2		21·2		+·0012	+·0002	+ 0·7	− 0·9	+·0003
52	123·9	108·3		21·2		+·0011	+·0002	+ 0·9	− 0·8	+·0003
57	123·6	109·8		21·2		+·0013	+·0002	+ 0·6	− 0·9	+·0003

1843. St. Helena.

March 28—29.

For Mean Monthly Readings, *see* page 183.

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28 23 02	19·1	67·1	67·9	28·0	67·7	+·0010	−·0064	+ 4·0	− 8·7	·0000
07	19·9	67·9		28·0		+·0011	−·0064	+ 4·4	− 8·8	+·0001
12	20·2	67·9		27·9		+·0011	−·0065	+ 4·4	− 8·9	+·0001
17	20·8	68·0		27·9		+·0011	−·0065	+ 4·7	− 8·9	+·0001
22	21·0	68·1		27·9		+·0011	−·0065	+ 4·7	− 8·9	+·0001
27	21·3	68·4		27·9		+·0011	−·0065	+ 4·7	− 8·9	+·0001
32	21·5	68·6		27·9		+·0011	−·0065	+ 4·7	− 8·9	+·0001
37	21·9	69·0		27·9		+·0012	−·0066	+ 4·8	− 9·2	+·0001
42	22·0	68·9		27·9		+·0012	−·0066	+ 4·7	− 9·2	+·0001
47	22·0	69·0		27·9		+·0012	−·0066	+ 4·6	− 9·2	+·0001
52	22·1	69·1		27·9		+·0012	−·0066	+ 4·4	− 9·2	+·0001
57	22·1	69·0		27·9		+·0011	−·0066	+ 4·3	− 8·9	+·0001
29 00 02	22·1	68·9	68·1	27·9	68·0	+·0011	−·0066	+ 4·2	− 8·9	+·0001
07	22·6	69·1		27·9		+·0012	−·0066	+ 4·4	− 9·2	+·0001
12	22·9	69·9		27·9		+·0013	−·0066	+ 4·4	− 9·3	+·0002

1843.
St. Helena.
March 29.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm.	Sc. Div.	Therm.	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
29 00 17	23·1	70·9		27·9		+·0015	−·0066	+ 4·5	− 9·4	+·0004
22	23·1	70·8		27·9		+·0015	−·0066	+ 4·4	− 9·4	+·0004
27	23·6	70·8		28·2		+·0015	−·0062	+ 4·6	− 8·9	+·0005
32	23·8	70·1		28·2		+·0014	−·0062	+ 4·6	− 8·9	+·0004
37	23·8	70·4		28·2		+·0015	−·0064	+ 4·5	− 9·3	+·0004
42	24·0	70·0		28·2		+·0014	−·0064	+ 4·5	− 9·2	+·0003
47	24·0	70·0		28·2		+·0014	−·0064	+ 4·4	− 9·2	+·0003
52	23·0	66·3		28·2		+·0007	−·0064	+ 4·4	− 8·2	+·0003
57	23·5	66·0		28·2		+·0007	−·0064	+ 3·8	− 8·2	+·0003
01 02	23·9	66·0	68·7	28·2	68·3	+·0007	−·0064	+ 4·0	− 8·2	−·0003
07	23·9	66·6		28·5		+·0008	−·0060	+ 3·9	− 8·0	−·0001
12	24·5	67·8		28·5		+·0011	−·0060	+ 4·3	− 8·2	+·0001
17	24·9	67·9		28·5		+·0011	−·0060	+ 4·5	− 8·2	+·0001
22	24·8	67·0		28·5		+·0009	−·0060	+ 4·4	− 8·1	·0000
27	24·2	65·6		28·3		+·0007	−·0062	+ 4·0	− 8·1	−·0002
32	23·9	65·2		28·3		+·0006	−·0062	+ 3·7	− 8·0	−·0003
37	23·8	65·1		28·3		+·0006	−·0064	+ 3·6	− 8·2	−·0004
42	23·3	64·2		28·3		+·0004	−·0064	+ 3·1	− 8·0	−·0005
47	23·4	64·1		28·3		+·0004	−·0064	+ 3·2	− 8·0	−·0005
52	23·2	64·0		28·3		+·0004	−·0064	+ 2·9	− 8·0	−·0005
57	23·0	64·1		28·3		+·0005	−·0064	+ 2·8	− 8·1	−·0004
02 02	23·0	64·1	68·9	28·3	68·5	+·0005	−·0064	+ 2·7	− 8·1	−·0004
07	22·9	64·0		28·3		+·0005	−·0064	+ 2·7	− 8·1	−·0004
12	22·9	64·1		28·3		+·0005	−·0064	+ 2·8	− 8·1	−·0004
17	23·0	64·0		28·3		+·0005	−·0064	+ 2·9	− 8·1	−·0004
22	23·0	63·9		28·3		+·0005	−·0065	+ 2·9	− 8·2	−·0005
27	22·9	63·7		28·3		+·0005	−·0065	+ 2·9	− 8·2	−·0005
32	22·5	63·1		28·3		+·0004	−·0065	+ 2·7	− 8·1	−·0005
37	22·2	62·5		28·3		+·0003	−·0065	+ 2·5	− 8·0	−·0006
42	21·8	62·0		28·3		+·0003	−·0065	+ 2·3	− 8·0	−·0006
47	21·2	61·1		28·3		+·0001	−·0065	+ 2·0	− 7·8	−·0008
52	20·9	60·9		28·3		+·0001	−·0066	+ 1·8	− 7·9	−·0008
57	20·2	60·1		28·6		·0000	−·0062	+ 1·3	− 7·3	−·0008
03 02	20·0	59·5	69·1	28·6	68·9	−·0001	−·0062	+ 1·3	− 7·2	−·0009
07	19·6	59·4		28·6		−·0001	−·0062	+ 1·1	− 7·2	−·0009
12	19·2	58·2		28·6		−·0003	−·0064	+ 0·9	− 7·2	−·0011
17	18·6	57·8		28·6		−·0004	−·0064	+ 0·6	− 7·1	−·0012
22	18·2	57·3		28·6		−·0004	−·0064	+ 0·4	− 7·1	−·0012
27	18·2	56·9		28·6		−·0005	−·0064	+ 0·5	− 6·8	−·0013
32	17·8	56·3		28·6		−·0006	−·0065	+ 0·3	− 6·8	−·0014
37	17·5	56·2		28·6		−·0006	−·0065	+ 0·2	− 6·8	−·0014
42	17·4	56·3		28·6		−·0005	−·0065	+ 0·2	− 7·1	−·0013
47	17·0	56·2		28·6		−·0005	−·0065	+ 0·1	− 7·1	−·0013
52	16·5	55·8		28·6		−·0006	−·0066	− 0·2	− 7·1	−·0014
57	16·1	55·2		28·6		−·0007	−·0066	− 0·4	− 6·8	−·0015
04 02	16·1	55·0	69·1	28·6	68·9	−·0007	−·0066	− 0·3	− 6·8	−·0015
07	16·1	54·4		28·5		−·0008	−·0068	− 0·2	− 7·1	−·0016
12	16·1	54·3		28·6		−·0008	−·0066	− 0·2	− 6·8	−·0016
17	16·0	54·1		28·6		−·0008	−·0066	− 0·2	− 6·8	−·0016
22	16·0	54·1		28·6		−·0008	−·0066	− 0·2	− 6·8	−·0016
27	15·9	54·1		28·6		−·0007	−·0066	− 0·2	− 6·8	−·0015
32	15·8	54·1		28·6		−·0007	−·0066	− 0·3	− 6·8	−·0015
37	15·8	54·0		28·6		−·0007	−·0065	− 0·2	− 6·8	−·0015
42	15·9	53·9		28·7		−·0007	−·0064	− 0·1	− 6·7	−·0015
47	16·0	53·5		28·7		−·0007	−·0064	0·0	− 6·7	−·0015
52	16·0	53·5		28·7		−·0007	−·0064	+ 0·1	− 6·7	−·0015
57	16·0	54·0		28·7		−·0006	−·0064	+ 0·1	− 6·8	−·0014
05 02	16·1	55·1	69·1	28·7	68·9	−·0004	−·0064	+ 0·2	− 7·1	−·0012
07	16·6	55·2		28·7		−·0003	−·0064	+ 0·6	− 7·2	−·0011
12	16·7	55·2		28·7		−·0003	−·0064	+ 0·6	− 7·2	−·0011
17	16·7	54·9		28·7		−·0003	−·0064	+ 0·6	− 7·2	−·0011
22	16·9	54·4		28·7		−·0004	−·0064	+ 0·8	− 7·1	−·0012

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OBSERVATIONS OF THE MAGNETOMETERS. The Declination was observed 2m. before, and the V. F. 1m. after the times specified.						Differences from the Mean-Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
29 05 27	17·4	54·0		28·7		−·0005	−·0064	+ 1·1	− 6·8	−·0013
32	17·4	53·2		28·7		−·0006	−·0064	+ 1·1	− 6·8	−·0014
37	17·4	52·9		28·8		−·0007	−·0062	+ 1·1	− 6·5	−·0014
42	17·3	52·5		28·8		−·0007	−·0062	+ 1·1	− 6·5	−·0014
47	17·0	52·1		28·8		−·0008	−·0062	+ 0·8	− 6·4	−·0015
52	17·1	52·3		28·8		−·0007	−·0062	+ 0·9	− 6·5	−·0014
57	17·1	52·3		28·8		−·0007	−·0062	+ 0·9	− 6·5	−·0014
06 02	17·1	52·8	69·0	28·8	68·8	−·0005	−·0062	+ 0·9	+ 6·7	+·0003
32	16·9	50·5		28·8(a)		−·0009	−·0062	+ 0·6	− 6·1	−·0016
07 02	16·1	46·3	69·0	28·8	68·8	−·0015	−·0062	− 0·1	− 5·4	−·0021
07	16·0	46·0		28·8		−·0016	−·0062	− 0·1	− 5·4	−·0022
12	16·0	45·8		28·8		−·0016	−·0062	− 0·1	− 5·4	−·0022
17	15·5	45·2		28·8		−·0017	−·0062	− 0·5	− 5·3	−·0023
22	15·5	45·0		28·8		−·0018	−·0062	− 0·5	− 5·2	−·0024
27	15·5	44·5		28·8		−·0018	−·0062	− 0·5	− 5·2	−·0024
32	15·6	43·9		28·8		−·0019	−·0062	− 0·4	− 4·9	−·0025
37	15·5	43·3		28·8		−·0021	−·0062	− 0·5	− 4·8	−·0026
42	15·5	43·1		28·8		−·0021	−·0062	− 0·5	− 4·8	−·0026
47	15·7	42·9		28·8		−·0021	−·0062	− 0·4	− 4·8	−·0026
52	15·4	42·5		28·8		−·0022	−·0062	− 0·6	− 4·7	−·0027
57	15·0	42·9		28·8		−·0021	−·0062	− 0·8	− 4·8	−·0026
08 02	15·0	43·0	69·0	28·8	68·8	−·0021	−·0062	− 0·8	− 4·8	−·0026
07	15·0	43·2		28·8		−·0020	−·0062	− 0·8	− 4·9	−·0026
12	15·0	43·9		28·8		−·0019	−·0062	− 0·8	− 4·9	−·0025
17	14·9	42·9		28·8		−·0021	−·0062	− 0·9	− 4·8	−·0026
22	14·8	42·9		28·8		−·0021	−·0062	− 1·1	− 4·8	−·0026
27	14·4	43·0		28·8		−·0020	−·0062	− 1·3	− 4·9	−·0026
32	14·4	43·1		28·8		−·0020	−·0062	− 1·3	− 4·9	−·0026
37	14·4	43·1		28·8		−·0020	−·0061	− 1·3	− 4·8	−·0025
42	14·3	43·4		28·8		−·0019	−·0061	− 1·4	− 4·9	−·0025
47	14·3	43·2		28·8		−·0020	−·0061	− 1·4	− 4·8	−·0025
52	14·6	43·1		28·8		−·0020	−·0061	− 1·3	− 4·8	−·0025
57	14·5	43·2		28·8		−·0019	−·0061	− 1·3	− 4·9	−·0025
09 02	14·5	43·2	69·0	28·9	68·8	−·0019	−·0060	− 1·3	− 4·8	−·0024
07	14·2	43·7		28·9		−·0018	−·0060	− 1·5	− 4·9	−·0024
12	14·0	43·6		28·9		−·0018	−·0060	− 1·7	− 4·9	−·0024
17	14·0	43·8		28·9		−·0018	−·0060	− 1·7	− 4·9	−·0024
22	13·9	43·2		28·9		−·0019	−·0060	− 1·8	− 4·8	−·0024
27	13·4	43·8		28·9		−·0018	−·0060	− 2·1	− 4·9	−·0024
32	13·1	44·0		28·9		−·0018	−·0060	− 2·3	− 4·9	−·0024
37	13·1	44·2		28·9		−·0017	−·0059	− 2·3	− 4·9	−·0023
42	13·2	44·4		28·9		−·0017	−·0059	− 2·2	− 4·9	−·0023
47	13·5	45·0		28·9		−·0015	−·0059	− 2·0	− 5·2	−·0021
52	13·5	45·8		28·9		−·0014	−·0059	− 2·0	− 5·3	−·0020
57	13·9	46·1		28·9		−·0013	−·0059	− 1·8	− 5·4	−·0019
10 02	14·0	47·0	69·1	29·3	69·1	−·0012	−·0053	− 1·7	− 4·8	−·0017
07	14·0	48·0		29·3		−·0010	−·0053	− 1·7	− 4·9	−·0016
12	14·2	49·8		29·3		−·0006	−·0053	− 1·5	− 5·4	−·0012
17	14·7	50·7		29·3		−·0005	−·0053	− 1·2	− 5·7	−·0012
22	14·9	51·2		29·3		−·0004	−·0053	− 1·1	− 5·8	−·0011
27	15·1	51·8		29·3		−·0003	−·0053	− 1·0	− 5·9	−·0010
32	15·7	51·3		29·3		−·0003	−·0053	− 0·6	− 5·9	−·0010
37	16·0	50·7		29·3		−·0004	−·0053	− 0·4	− 5·8	−·0011
42	16·0	49·9		29·3		−·0006	−·0053	− 0·4	− 5·4	−·0012
47	16·0	49·0		29·3		−·0008	−·0053	− 0·4	− 5·3	−·0014
52	15·8	48·9		29·3		−·0008	−·0053	− 0·6	− 5·3	−·0014
57	15·8	48·8		29·3		−·0008	−·0053	− 0·6	− 5·3	−·0014
11 02	15·5	48·2	69·1	29·3	69·1	−·0009	−·0053	− 0·8	− 5·2	−·0015
07	15·8	48·0		29·5		−·0010	−·0051	− 0·6	− 4·8	−·0015
12	15·8	48·0		29·5		−·0010	−·0051	− 0·6	− 4·8	−·0015
17	15·7	48·0		29·5		−·0010	−·0051	− 0·6	− 4·8	−·0015
22	15·7	48·1		29·5		−·0010	−·0051	− 0·6	− 4·8	−·0015

(a) Observed at 28 minutes.

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St. Helena.
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OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
29 11 27	15·6	48·3		29·5		−·0009	−·0051	− 0·7	− 4·9	−·0015
32	15·8	48·5		29·5		−·0009	−·0051	− 0·6	− 4·9	−·0015
37	15·8	48·8		29·5		−·0008	−·0049	− 0·6	− 4·8	−·0013
42	15·8	48·9		29·5		−·0008	−·0049	− 0·6	− 4·8	−·0013
47	15·7	49·0		29·5		−·0008	−·0049	− 0·6	− 4·8	−·0013
52	15·9	49·0		29·5		−·0008	−·0049	− 0·5	− 4·8	−·0013
57	15·8	49·1		29·5		−·0008	−·0049	− 0·6	− 4·8	−·0013
12 02	15·9	49·2	69·1	29·5	69·2	−·0008	−·0049	− 0·5	− 4·8	−·0013
07	16·0	49·6		29·5		−·0007	−·0049	− 0·4	− 4·9	−·0013
12	16·0	49·8		29·6		−·0007	−·0048	− 0·4	− 4·8	−·0012
17	16·0	50·0		29·6		−·0007	−·0048	− 0·4	− 4·8	−·0012
22	16·0	50·1		29·6		−·0007	−·0048	− 0·4	− 4·8	−·0012
27	16·0	50·1		29·6		−·0007	−·0048	− 0·4	− 4·8	−·0012
32	16·1	50·1		29·6		−·0007	−·0048	− 0·4	− 4·8	−·0012
37	16·1	50·0		29·6		−·0007	−·0047	− 0·3	− 4·7	−·0012
42	16·2	50·1		29·6		−·0007	−·0047	− 0·2	− 4·7	−·0012
47	16·4	—		29·6		—	—	− 0·1	—	—
52	16·5	50·2		29·6		−·0007	−·0047	0·0	− 4·7	−·0012
57	16·3	50·1		29·6		−·0007	−·0047	− 0·1	− 4·7	−·0012
13 02	16·1	50·0	69·1	29·6	69·2	−·0007	−·0047	− 0·3	− 4·7	−·0012
32	16·1	49·9		29·6(a)		−·0008	−·0047	− 0·3	− 4·6	−·0013
14 02	16·1	50·7	69·1	29·6(a)	69·0	−·0007	−·0048	− 0·2	− 4·8	−·0012
32	16·0	50·5		29·6(a)		−·0007	−·0048	− 0·2	− 4·8	−·0012
15 02	16·0	50·6	69·0	29·6	68·9	−·0007	−·0047	− 0·1	− 4·7	−·0012

1843.
Cape of Good Hope.
March 29.

CAPE OF GOOD HOPE, 1843. MARCH 29.

29 07 02	42·0	74·6	68·2	38·8	68·1	−·0016	+·0004	− 0·2	+ 3·3	−·0003
27	—	74·5		40·3		−·0016	+·0007	—	+ 3·8	−·0001
32	40·9	74·0		40·6		−·0017	+·0007	− 1·0	+ 4·0	−·0002
37	40·6	73·5		40·6		−·0018	+·0007	− 1·2	+ 4·1	−·0002
42	40·7	73·3		40·6		−·0018	+·0007	− 1·1	+ 4·1	−·0002
47	40·9	72·7		40·2		−·0019	+·0007	− 1·0	+ 4·3	−·0002
52	40·9	72·3		40·2		−·0020	+·0007	− 1·0	+ 4·4	−·0003
57	40·8	73·2		40·3		−·0018	+·0007	− 1·1	+ 4·1	−·0002
08 02	40·5	73·4	68·1	40·0	68·2	−·0018	+·0006	− 1·3	+ 4·0	−·0003
07	40·4	74·2		39·8		−·0016	+·0006	− 1·4	+ 3·6	−·0002
12	40·3	73·7		40·1		−·0017	+·0007	− 1·4	+ 4·0	−·0002
17	40·0	73·9		40·0		−·0017	+·0006	− 1·7	+ 3·8	−·0002
22	39·6	73·7		40·3		−·0018	+·0007	− 2·0	+ 4·1	−·0002
27	39·3	74·1		39·8		−·0017	+·0006	− 2·2	+ 3·8	−·0002
32	39·5	74·6		39·5		−·0016	+·0006	− 2·0	+ 3·6	−·0002
37	39·5	74·5		38·9		−·0016	+·0005	− 2·0	+ 3·5	−·0002
42	39·5	74·7		38·8		−·0016	+·0005	− 2·0	+ 3·5	−·0002
47	39·6	74·6		38·5		−·0016	+·0005	− 2·0	+ 3·5	−·0002
52	39·9	74·3		38·0		−·0017	+·0004	− 1·7	+ 3·5	−·0003
57	39·8	74·6		37·8		−·0016	+·0004	− 1·8	+ 3·3	−·0003
09 02	39·6	74·9	68·1	37·9	68·1	−·0016	+·0004	− 2·0	+ 3·3	−·0003
07	39·1	75·6		37·9		−·0015	+·0004	− 2·3	+ 3·1	−·0003
12	38·9	75·8		37·9		−·0014	+·0004	− 2·5	+ 3·0	−·0002
17	38·8	75·8		37·9		−·0015	+·0004	− 2·6	+ 3·1	−·0003
22	38·4	76·0		38·5		−·0014	+·0005	− 2·8	+ 3·1	−·0002
27	37·6	76·4		38·5		−·0014	+·0005	− 3·4	+ 3·1	−·0002
32	37·0	77·6		38·5		−·0012	+·0005	− 3·8	+ 2·8	−·0001
37	36·9	78·0		37·9		−·0011	+·0004	− 3·9	+ 2·5	−·0001
42	37·0	78·1		37·5		−·0011	+·0003	− 3·8	+ 2·3	−·0002
47	37·2	78·6		36·5		−·0010	+·0001	− 3·7	+ 1·8	−·0003
52	37·6	79·0		35·7		−·0009	0000	− 3·3	+ 1·5	−·0003
57	38·0	79·2		35·2		−·0009	−·0001	− 3·0	+ 1·3	−·0004

(a) Observed 4m. before the times specified.

For Mean Monthly Readings, *see* page 190.

1843. Cape of Good Hope.

March 29.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	″	Parts of Total Force.
29 10 02	38·0	81·4	68·0	34·7	68·0	−·0005	−·0001	− 3·0	+ 0·7	−·0002
07	37·7	83·8		33·5		−·0001	−·0003	− 3·2	− 0·3	·0000
12	38·4	85·7		30·7		+·0002	−·0007	− 2·7	− 1·5	−·0004
17	39·3	85·7		29·7		+·0003	−·0009	− 2·0	− 2·0	−·0005
22	39·9	86·4		28·8		+·0004	−·0010	− 1·6	− 2·3	−·0005
27	40·9	85·3		28·4		+·0002	−·0011	− 0·8	− 2·1	−·0006
32	41·4	84·7		32·5		+·0001	−·0005	− 0·5	− 1·0	−·0003
37	42·1	83·6		33·1		−·0001	−·0004	+ 0·1	− 0·5	−·0003
42	42·1	82·3		31·5		−·0004	−·0006	0·0	− 0·3	−·0005
47	42·1	81·8		35·6		−·0005	·0000	0·0	+ 0·8	−·0002
52	40·5	81·7		36·2		−·0005	+·0001	− 1·2	+ 1·0	−·0001
57	40·2	81·8		32·0		−·0005	−·0005	− 1·4	0·0	−·0005
11 02	39·8	81·8	67·8	31·8	67·8	−·0005	−·0005	− 1·7	0·0	−·0005
07	39·8	81·7		31·4		−·0005	−·0006	− 1·7	− 0·2	−·0004
12	40·0	81·5		31·4		−·0006	−·0006	− 1·6	0·0	−·0006
17	40·0	81·3		31·4		−·0006	−·0006	− 1·6	0·0	−·0006
22	40·1	81·5		31·4		−·0006	−·0006	− 1·6	0·0	−·0006
27	40·1	81·5		31·4		−·0006	−·0006	− 1·5	0·0	−·0006
32	41·2	—		—		—	—	− 1·7	—	—
12 02	41·0	82·0	67·7	30·8	67·7	−·0006	+·0007	− 0·8	+ 2·1	+·0002

1843. St. Helena.

April 4.

ST. HELENA, 1843. APRIL 4—5.

MEAN MONTHLY READINGS OF THE MAGNETOMETERS.

Mean Göttingen Time.	Declination.	H. F. at 68°·4.	V. F. at 68°·1.	Mean Göttingen Time.	Declination.	H. F. at 68°·4.	V. F. at 68°·1.
Hours.	Sc. Div.	Sc. Div.	Sc. Div.	Hours.	Sc. Div.	Sc. Div.	Sc. Div.
00	16·2	63·3	47·4	12	15·7	53·7	48·1
01	17·7	63·6	47·9	13	15·7	53·8	47·8
02	16·6	62·2	48·0	14	15·8	54·9	47·7
03	15·5	59·9	48·3	15	15·7	55·1	47·8
04	14·8	58·1	48·5	16	15·9	55·1	47·8
05	14·5	56·5	48·6	17	16·0	55·5	47·9
06	14·2	54·8	48·5	18	16·1	55·7	47·8
07	14·7	53·7	48·6	19	16·4	56·0	47·5
08	15·1	52·9	48·5	20	15·9	56·4	47·5
09	15·1	52·8	48·2	21	13·9	57·7	47·5
10	15·1	52·9	48·3	22	12·6	59·6	47·3
11	15·3	52·8	48·2	23	13·4	61·8	47·3

Coefficients (A), Approximate Absolute Values (B.)

(A) Declin. $a = 0'·711$

H. F. $k = ·00019$, $q = ·00028$

V. F. $k = ·00085$, $q = ·00002$

(B) Approx. $\psi = 23° 12'$, $X = 5·57$, $Y = 2·21$, $\theta = -21° 40'$, $\phi = 6·00$

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm.	Parts of Hor. Force.	Parts of Vert. Force.	′	″	Parts of Total Force.
4 23 02	18·9	66·1	68·7	51·0	68·1	+·0006	+·0024	+ 1·9	+ 2·1	+·0009
32	16·7	71·3		50·5		+·0016	+·0027	+ 1·3	+ 1·3	+·0017
37	16·8	71·8		50·5		+·0017	+·0026	+ 1·3	+ 0·9	+·0018
42	17·0	72·0		50·4		+·0017	+·0026	+ 1·2	+ 0·9	+·0018
47	17·1	71·8		50·4		+·0016	+·0026	+ 1·1	+ 1·2	+·0017
52	17·3	71·4		50·4		+·0015	+·0026	+ 1·1	+ 1·3	+·0016
57	17·6	71·0		50·4		+·0014	+·0026	+ 1·1	+ 1·4	+·0016

1843.
St. Helena.

April 5.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
5 00 02	17·7	70·4	68·1	50·6	67·9	+·0013	+·0027	+ 1·1	+ 1·7	+·0015
07	18·0	70·4		50·6		+·0013	+·0027	+ 1·2	+ 1·7	+·0015
12	18·1	70·2		50·6		+·0012	+·0026	+ 1·1	+ 1·7	+·0014
17	18·5	70·1		50·6		+·0012	+·0026	+ 1·3	+ 1·7	+·0014
22	18·8	70·0		50·6		+·0012	+·0026	+ 1·5	+ 1·7	+·0014
27	18·9	70·0		50·6		+·0012	+·0026	+ 1·5	+ 1·7	+·0014
32	19·0	69·7		50·6		+·0011	+·0026	+ 1·4	+ 1·8	+·0013
01 02	20·4	69·5	68·3	50·6	68·0	+·0011	+·0023	+ 1·9	+ 1·4	+·0013
02 02	21·1	69·6	68·7	49·7	68·5	+·0007	+·0014	+ 3·2	+ 0·8	+·0008
03 02	19·9	58·0	68·9	49·6	68·4	−·0002	+·0011	+ 3·1	+ 1·4	·0000
07	19·5	57·5		49·6		−·0003	+·0011	+ 2·9	+ 1·7	−·0001
12	19·4	56·9		49·6		−·0004	+·0011	+ 2·8	+ 1·8	−·0002
17	19·0	56·0		49·6		−·0005	+·0011	+ 2·6	+ 1·9	−·0003
22	18·2	55·4		49·3		−·0006	+·0008	+ 2·0	+ 1·7	−·0004
27	18·0	54·9		49·3		−·0007	+·0008	+ 2·0	+ 1·8	−·0005
32	17·5	54·1		49·3		−·0008	+·0008	+ 1·6	+ 1·9	−·0006
37	17·4	—		—		—	—	+ 1·6	—	—
42	17·2	52·7		53·2		−·0010	+·0041	+ 1·5	+ 6·0	−·0003
47	17·0	52·0		53·0		−·0011	+·0039	+ 1·4	+ 5·9	−·0004
52	17·0	51·8		54·0		−·0011	+·0047	+ 1·5	+ 6·8	−·0003
57	17·1	50·9		54·0		−·0012	+·0047	+ 1·5	+ 6·8	−·0004
04 02	17·0	50·1	69·0	54·0	68·8	−·0014	+·0047	+ 1·5	+ 7·2	−·0006
07	16·9	49·4		54·0		−·0015	+·0047	+ 1·5	+ 7·3	−·0007
12	16·9	49·0		54·0		−·0015	+·0047	+ 1·5	+ 7·3	−·0007
17	16·9	48·0		53·2		−·0017	+·0040	+ 1·5	+ 6·7	−·0009
22	17·0	47·6		53·9		−·0017	+·0046	+ 1·6	+ 7·4	−·0009
27	16·9	47·0		53·9		−·0018	+·0046	+ 1·5	+ 7·5	−·0009
32	16·7	45·9		53·9		−·0020	+·0046	+ 1·5	+ 7·8	−·0011
37	16·6	45·2		53·9		−·0021	+·0045	+ 1·4	+ 7·8	−·0012
42	16·6	44·9		53·9		−·0021	+·0045	+ 1·4	+ 7·8	−·0012
47	16·5	44·1		53·9		−·0023	+·0045	+ 1·3	+ 8·0	−·0014
52	16·2	43·4		53·7		−·0024	+·0043	+ 1·2	+ 7·9	−·0015
57	16·2	42·8		54·0		−·0025	+·0046	+ 1·2	+ 8·2	−·0015
05 02	16·0	40·3	69·0	54·4	68·8	−·0029	+·0049	+ 1·1	+ 9·2	−·0018
07	16·2	38·0		54·6		−·0033	+·0051	+ 1·2	+ 9·9	−·0022
12	16·0	36·4		54·6		−·0036	+·0051	+ 1·1	+10·1	−·0024
17	15·6	35·9		53·7		−·0037	+·0043	+ 0·8	+ 9·4	−·0026
22	15·1	36·2		53·7		−·0036	+·0043	+ 0·5	+ 9·3	−·0025
27	15·1	36·2		53·7		−·0036	+·0043	+ 0·5	+ 9·3	−·0025
32	15·0	35·2		53·7		−·0038	+·0043	+ 0·5	+ 9·4	−·0027
37	14·6	34·7		53·4		−·0038	+·0042	+ 0·2	+ 9·4	−·0027
42	14·1	34·1		53·4		−·0039	+·0042	− 0·1	+ 9·4	−·0028
47	14·0	33·8		53·4		−·0039	+·0042	− 0·2	+ 9·4	−·0028
52	13·8	33·2		53·4		−·0041	+·0042	− 0·3	+ 9·8	−·0030
57	13·8	32·8		53·4		−·0041	+·0042	− 0·3	+ 9·8	−·0030
06 02	13·8	32·5	68·8	53·4	68·7	−·0041	+·0042	− 0·3	+ 9·8	−·0030
07	13·8	32·2		53·4		−·0042	+·0042	− 0·3	+ 9·9	−·0031
12	13·8	32·0		53·1		−·0042	+·0039	− 0·4	+ 9·4	−·0031
17	13·3	32·0		53·1		−·0042	+·0039	− 0·7	+ 9·4	−·0031
22	13·0	31·9		53·1		−·0042	+·0039	− 1·0	+ 9·4	−·0031
27	12·8	31·3		53·0		−·0043	+·0038	− 1·1	+ 9·4	−·0032
32	12·4	30·8		52·6		−·0044	+·0035	− 1·4	+ 9·3	−·0033
37	12·3	30·8		53·5		−·0043	+·0042	− 1·5	+10·0	−·0032
42	12·3	30·2		53·5		−·0044	+·0042	− 1·5	+10·1	−·0032
47	12·5	30·0		53·5		−·0045	+·0042	− 1·5	+10·1	−·0033
52	12·5	29·8		53·2		−·0045	+·0039	− 1·5	+ 9·9	−·0034
57	12·6	29·0		53·2		−·0046	+·0039	− 1·5	+10·0	−·0035
07 02	12·4	29·0		53·2	68·7	−·0046	+·0039	− 1·6	+10·0	−·0035
07	12·4	—	68·8	—		—	—	− 1·6	—	—
12	12·2	28·7		53·2		−·0046	+·0039	− 1·8	+10·0	−·0035
17	12·3	28·0		53·5		−·0047	+·0042	− 1·8	+10·5	−·0035
22	12·7	27·1		53·5		−·0049	+·0042	− 1·5	+10·7	−·0037
27	13·0	26·2		53·5		−·0051	+·0042	− 1·3	+10·8	−·0038

1843.
St. Helena.

April 5.

OBSERVATIONS OF THE MAGNETOMETERS. The Declination was observed 2m. before, and the V. F. 1m. after the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
5 07 32	13·6	25·2		53·5		−·0052	+·0042	− 0·9	+11·1	−·0039
37	13·3	23·5		53·5		−·0055	+·0043	− 1·1	+11·5	−·0042
42	12·8	22·5		53·5		−·0057	+·0043	− 1·5	+11·8	−·0043
47	12·4	21·4		53·5		−·0059	+·0043	− 1·8	+12·0	−·0045
52	12·3	20·9		53·3		−·0060	+·0041	− 1·9	+11·9	−·0046
57	12·3	20·4		53·3		−·0061	+·0041	− 2·0	+12·0	−·0047
08 02	12·7	20·1	68·8	53·6	68·7	−·0061	+·0043	− 1·7	+12·2	−·0047
07	12·5	19·9		53·6		−·0062	+·0043	− 1·8	+12·2	−·0048
12	12·5	19·9		53·6		−·0062	+·0044	− 1·8	+12·5	−·0048
17	12·4	19·9		53·6		−·0062	+·0044	− 1·9	+12·5	−·0048
22	12·3	19·9		53·6		−·0062	+·0044	− 2·0	+12·5	−·0048
27	12·1	19·9		53·6		−·0062	+·0044	− 2·1	+12·5	−·0048
32	12·1	20·1		53·6		−·0061	+·0045	− 2·1	+12·5	−·0047
37	11·8	19·9		53·6		−·0061	+·0045	− 2·3	+12·5	−·0047
42	11·3	19·9		53·5		−·0061	+·0044	− 2·7	+12·2	−·0047
47	11·1	18·2		53·5		−·0065	+·0044	− 2·8	+12·7	−·0050
52	11·7	18·1		53·5		−·0065	+·0045	− 2·4	+13·0	−·0050
57	11·4	18·1		53·5		−·0065	+·0045	− 2·6	+13·0	−·0050
09 02	11·1	17·9	68·8	53·5	68·7	−·0065	+·0045	− 2·8	+13·0	−·0050
07	10·9	17·9		53·7		−·0065	+·0047	− 2·9	+13·2	−·0050
12	10·7	17·8		53·6		−·0065	+·0046	− 3·1	+13·1	−·0050
17	10·7	18·0		53·6		−·0065	+·0046	− 3·1	+13·1	−·0050
22	10·8	18·5		53·7		−·0064	+·0047	− 3·0	+13·1	−·0049
27	10·8	19·2		53·7		−·0063	+·0047	− 3·0	+13·0	−·0048
32	10·7	19·8		53·7		−·0062	+·0047	− 3·1	+12·7	−·0047
37	10·5	20·2		53·7		−·0061	+·0046	− 3·2	+12·6	−·0047
42	10·4	21·2		53·7		−·0059	+·0046	− 3·3	+12·2	−·0045
47	10·2	21·6		53·7		−·0058	+·0046	− 3·4	+12·2	−·0044
52	10·2	22·2		53·7		−·0057	+·0046	− 3·4	+12·1	−·0043
57	10·2	22·5		53·7		−·0057	+·0046	− 3·4	+12·1	−·0043
10 02	10·2	22·9	68·8	53·7	68·7	−·0056	+·0046	− 3·4	+12·0	−·0042
07	10·1	22·9		53·3		−·0056	+·0043	− 3·6	+11·5	−·0043
12	10·1	23·0		53·3		−·0056	+·0043	− 3·6	+11·5	−·0043
17	10·1	23·9		53·3		−·0054	+·0043	− 3·6	+11·4	−·0041
22	10·0	24·3		53·3		−·0053	+·0043	− 3·7	+11·3	−·0040
27	10·0	25·1		53·3		−·0052	+·0043	− 3·7	+11·2	−·0039
32	10·2	25·9		53·3		−·0050	+·0043	− 3·6	+10·8	−·0037
37	10·2	26·1		53·3		−·0050	+·0043	− 3·6	+10·8	−·0037
42	10·0	26·0		53·3		−·0050	+·0043	− 3·7	+10·8	−·0037
47	9·9	26·7		53·3		−·0049	+·0043	− 3·8	+10·8	−·0036
52	9·9	26·1		53·2		−·0050	+·0043	− 3·9	+10·8	−·0037
57	9·8	25·9		53·3		−·0050	+·0043	− 4·0	+10·8	−·0037
11 02	9·9	27·0	68·7	53·6	68·7	−·0048	+·0046	− 3·9	+11·1	−·0035
07	10·0	—		—		—	—	− 3·8	—	—
12	10·1	28·9		53·6		−·0045	+ 0046	− 3·8	+10·7	−·0033
17	10·1	30·1		53·4		−·0043	+·0044	− 3·8	+10·1	−·0031
22	10·3	31·7		53·4		−·0040	+·0044	− 3·7	+ 9·9	−·0029
27	10·4	32·2		53·4		−·0039	+·0044	− 3·7	+ 9·8	−·0028
32	10·4	34·1		53·4		−·0036	+·0044	− 3·7	+ 9·4	−·0025
37	10·5	34·8		53·4		−·0034	+·0045	− 3·6	+ 9·3	−·0023
42	10·6	34·3		53·4		−·0036	+·0045	− 3·6	+ 9·4	−·0025
47	10·9	34·5		53·4		−·0035	+·0045	− 3·3	+ 9·4	−·0024
52	11·0	34·1		53·4		−·0036	+·0045	− 3·2	+ 9·4	−·0025
57	11·1	34·0		53·4		−·0037	+·0045	− 3·2	+ 9·7	−·0026
12 02	11·3	34·1	68·7	53·5	68·6	−·0037	+·0046	− 3·1	+ 9·8	−·0026
07	11·7	—		—		—	—	− 2·8	—	—
12	11·8	34·4		53·5		−·0036	+·0047	− 2·7	+ 9·8	−·0025
17	11·9	34·9		53·5		−·0035	+·0047	− 2·7	+ 9·7	−·0024
22	11·9	34·9		53·5		−·0035	+·0047	− 2·7	+ 9·7	−·0024
27	11·8	34·9		53·5		−·0035	+·0047	− 2·7	+ 9·7	−·0024
32	11·7	35·1		53·6		−·0035	+·0049	− 2·8	+ 9·9	−·0024
37	11·6	35·4		53·6		−·0034	+·0049	− 2·9	+ 9·8	−·0023
42	11·3	—		—		—	—	− 3·1	—	—

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OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta \psi$	$\Delta \theta$	$\frac{\Delta \phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
5 12 47	11·0	35·0		53·6		−·0035	+·0049	− 3·3	+ 9·9	−·0024
52	11·1	34·8		53·6		−·0035	+·0049	− 3·2	+ 9·9	−·0024
57	11·1	35·4		53·6		−·0034	+·0049	− 3·2	+ 9·8	−·0023
13 02	11·6	37·4	68·7	53·6	68·5	−·0030	+·0049	− 2·9	+ 9·3	−·0019
07	12·1	39·3		54·7		−·0027	+·0059	− 2·5	+10·1	−·0015
12	12·9	42·9		54·7		−·0020	+·0059	− 2·0	+ 9·3	−·0009
17	13·2	45·8		54·7		−·0015	+·0059	− 1·8	+ 8·7	−·0005
22	13·4	48·9		54·5		−·0009	+·0057	− 1·6	+ 7·8	·0000
27	13·6	50·8		54·5		−·0006	+·0057	− 1·5	+ 7·4	+·0002
32	14·1	52·0		54·5		−·0004	+·0057	− 1·1	+ 7·2	+·0004
37	14·8	52·8		54·5		−·0002	+·0058	− 0·7	+ 7·1	+·0006
42	14·8	52·9		54·3		−·0002	+·0056	− 0·7	+ 6·8	+·0006
47	14·8	52·0		53·2		−·0004	+·0047	− 0·7	+ 6·0	+·0003
52	14·4	50·0		53·2		−·0008	+·0047	− 1·0	+ 6·5	−·0001
57	14·0	49·0		53·2		−·0010	+·0047	− 1·3	+ 6·7	−·0002
14 02	14·0	48·1	68·7	53·2	68·5	−·0012	+·0047	− 1·3	+ 6·8	−·0004
07	14·0	—		—		—	—	− 1·3	—	—
12	14·0	47·6		53·9		−·0013	+·0053	− 1·3	+ 7·8	−·0004
17	13·7	47·1		53·9		−·0014	+·0053	− 1·5	+ 7·9	−·0005
22	13·7	46·8		53·9		−·0015	+·0053	− 1·5	+ 8·0	−·0006
27	13·6	46·4		53·9		−·0016	+·0053	− 1·5	+ 8·1	−·0007
32	13·6	46·1		53·9		−·0016	+·0053	− 1·5	+ 8·1	−·0007
37	13·2	46·0		53·9		−·0017	+·0052	− 1·8	+ 8·1	−·0008
42	13·0	46·0		53·9		−·0017	+·0052	− 1·9	+ 8·1	−·0008
47	13·0	45·8		53·9		−·0017	+·0052	− 1·9	+ 8·1	−·0008
52	13·0	45·4		53·9		−·0018	+·0052	− 1·9	+ 8·2	−·0008
57	13·1	45·3		53·9		−·0018	+·0052	− 1·8	+ 8·2	−·0008
15 02	13·0	45·7	68·6	53·9	68·4	−·0017	+·0052	− 1·9	+ 8·1	−·0008
07	13·0	—		—		—	—	− 1·9	—	—
12	13·0	46·0		53·6		−·0017	+·0049	− 1·9	+ 7·8	−·0008
17	13·0	46·0		53·6		−·0017	+·0049	− 1·9	+ 7·8	−·0008
22	13·0	46·0		53·6		−·0017	+·0049	− 2·0	+ 7·8	−·0008
27	13·1	46·1		53·6		−·0017	+·0049	− 1·9	+ 7·8	−·0008
32	13·4	46·4		53·6		−·0016	+·0049	− 1·7	+ 7·5	−·0007
37	13·6	46·9		53·6		−·0015	+·0049	− 1·5	+ 7·5	−·0006
42	13·8	47·0		53·6		−·0015	+·0049	− 1·4	+ 7·5	−·0006
47	14·0	47·2		53·6		−·0014	+·0049	− 1·3	+ 7·4	−·0006
52	14·2	47·7		53·6		−·0014	+·0049	− 1·2	+ 7·4	−·0006
57	14·2	47·8		53·6		−·0013	+·0049	− 1·2	+ 7·3	−·0005
16 02	14·2	48·0	68·6	53·6	68·4	−·0013	+·0049	− 1·2	+ 7·3	−·0005
07	14·2	48·0		53·7		−·0013	+·0050	− 1·2	+ 7·4	−·0005
12	14·5	48·2		53·6		−·0013	+·0049	− 1·0	+ 7·3	−·0005
17	14·6	48·2		53·6		−·0013	+·0049	− 0·9	+ 7·3	−·0005
22	14·8	48·3		53·6		−·0013	+·0049	− 0·8	+ 7·3	−·0005
27	14·6	48·3		53·6		−·0013	+·0049	− 0·9	+ 7·3	−·0005
32	14·5	48·2		53·6		−·0013	+·0049	− 1·0	+ 7·3	−·0005
37	14·3	48·0		53·6		−·0014	+·0049	− 1·2	+ 7·4	−·0006
42	14·3	48·0		53·6		−·0014	+·0049	− 1·2	+ 7·4	−·0006
47	14·4	48·0		53·6		−·0014	+·0049	− 1·1	+ 7·4	−·0006
52	14·4	48·0		53·6		−·0014	+·0049	− 1·1	+ 7·4	−·0006
57	14·3	48·1		53·6		−·0014	+·0049	− 1·2	+ 7·4	−·0006
17 02	14·4	48·0	68·5	53·6	68·4	−·0014	+·0049	− 1·1	+ 7·4	−·0006
07	14·4	—		—		—	—	− 1·1	—	—
12	14·8	48·2		53·6		−·0014	+·0049	− 0·8	+ 7·4	−·0006
17	15·0	48·3		53·6		−·0014	+·0049	− 0·7	+ 7·4	−·0006
22	15·0	48·3		53·5		−·0014	+·0048	− 0·7	+ 7·3	−·0006
27	15·0	48·3		53·5		−·0014	+·0048	− 0·7	+ 7·3	−·0006
32	15·0	48·4		53·5		−·0014	+·0048	− 0·7	+ 7·3	−·0006
37	15·0	48·3		53·5		−·0014	+·0049	− 0·8	+ 7·4	−·0006
42	15·0	48·3		53·5		−·0014	+·0049	− 0·8	+ 7·4	−·0006
47	15·0	48·4		53·5		−·0014	+·0049	− 0·8	+ 7·4	−·0006
52	15·0	48·3		53·5		−·0014	+·0049	− 0·8	+ 7·4	−·0006
57	15·0	48·3		53·6		−·0014	+·0049	− 0·8	+ 7·4	−·0006

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OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours. $\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
5 18 02	15·0	48·3	68·4	53·6	68·3	−·0014	+·0049	− 0·8	+ 7·4	−·0006
07	15·0	—		—		—	—	− 0·8	—	—
12	15·0	48·5		53·5		−·0014	+·0049	− 0·8	+ 7·4	−·0006
17	15·1	48·8		53·8		−·0013	+·0052	− 0·8	+ 7·5	−·0004
22	15·1	48·9		53·8		−·0013	+·0052	− 0·8	+ 7·5	−·0004
27	15·1	48·9		53·8		−·0013	+·0052	− 0·8	+ 7·5	−·0004
32	15·1	48·7		53·8		−·0014	+·0053	− 0·8	+ 7·9	−·0005
37	15·2	48·6		53·8		−·0014	+·0053	− 0·8	+ 7·9	−·0005
42	15·4	48·6		53·8		−·0014	+·0053	− 0·6	+ 7·9	−·0005
47	15·6	48·9		53·8		−·0014	+·0053	− 0·5	+ 7·9	−·0005
52	15·8	49·4		53·8		−·0013	+·0054	− 0·4	+ 7·9	−·0004
57	16·0	49·9		53·8		−·0012	+·0054	− 0·3	+ 7·8	−·0003
19 02	16·1	50·0	68·3	53·8	68·3	−·0012	+·0054	− 0·2	+ 7·8	−·0003
32	16·6	49·9		53·8		−·0013	+·0054	− 0·3	+ 7·9	−·0004
20 02	15·8	50·0	68·1	53·9	68·0	−·0013	+·0054	− 0·1	+ 7·9	−·0004

1843. Van Diemen Island. April 5.

VAN DIEMEN ISLAND, 1843. APRIL 5—6.

MEAN MONTHLY READINGS OF THE MAGNETOMETERS.

Mean Göttingen Time.	Declination.	H. F. at 57°·6.	V. F. at 56°·5.	Mean Göttingen Time.	Declination.	H. F. at 57°·6.	V. F. at 56°·5.
Hours.	Sc. Div.	Sc. Div.	Sc. Div.	Hours.	Sc. Div.	Sc. Div.	Sc. Div.
00	87·7	82·8	57·3	12	87·0	78·7	53·0
01	88·3	82·5	58·2	13	87·0	76·3	54·7
02	87·9	82·9	57·2	14	89·2	74·1	58·1
03	87·5	81·7	57·5	15	92·3	74·4	61·1
04	89·0	82·5	58·5	16	94·6	75·9	59·9
05	89·8	81·5	56·6	17	95·5	78·4	62·9
06	90·1	82·9	54·1	18	95·3	80·3	63·2
07	89·2	82·5	52·4	19	94·2	80·1	64·0
08	89·6	83·2	51·5	20	92·5	82·3	62·0
09	90·1	82·4	48·0	21	91·0	81·8	61·6
10	89·9	82·2	52·0	22	89·5	82·5	59·8
11	88·4	80·5	51·0	23	89·1	82·6	58·8

Coefficients (A), Approximate Absolute Values (B.)

(A) Declin. $a = 0'·71$

H. F. $k = ·000120$, $q = ·000234$

V. F. $k = ·000040$, $q = ·00021$

(B) Approx. $\psi = -9°\,55'$, $X = 4·51$, $Y = 12·86$, $\theta = -70°\,37'$, $\phi = 13·62$

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 2m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours. $\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
5 02 02	87·7	82·6	58·0	60·0	56·6	·0000	+·0001	− 0·1	+ 0·1	·0000
08	88·2	78·9		57·2		−·0004	·0000	+ 0·2	+ 0·4	·0000
14	84·8	82·2		57·5		·0000	+·0001	− 2·1	+ 0·1	·0000
20	83·8	92·6		50·4		+·0013	−·0002	− 2·8	− 1·6	·0000
26	86·8	96·8		41·7		+·0018	−·0005	− 0·6	− 2·5	−·0002
32	87·2	95·5		37·8		+·0017	−·0007	− 0·4	− 2·6	−·0004
38	86·4	93·1		34·9		+·0014	−·0008	− 0·9	− 2·4	−·0006
44	84·9	89·9		35·1		+·0010	−·0007	− 1·9	− 1·8	−·0005
50	83·6	85·7		38·4(a)		+·0005	−·0006	− 2·8	− 1·2	−·0005
03 02	79·1	78·0	58·0	38·4	57·6	−·0004	−·0005	− 6·0	− 0·1	−·0003
08	75·1	78·3		42·5		−·0004	−·0004	− 8·9	0·0	−·0004
14	72·9	79·1		41·8		−·0003	−·0004	−10·5	− 0·1	−·0004
20	74·9	79·7		46·3		−·0002	−·0002	− 9·3	0·0	−·0002

(a) Observed at 58 minutes.

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OBSERVATIONS OF THE MAGNETOMETERS. The Declination was observed 2m. before, and the V. F. 2m. after the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
5 03 26	76·8	77·7		48·7		−·0005	−·0001	− 8·0	+ 0·4	−·0001
32	78·7	76·1		51·1		−·0007	·0000	− 6·8	+ 0·8	−·0001
38	80·8	75·1		51·4		−·0008	·0000	− 5·4	+ 0·9	−·0001
44	80·6	72·2		52·1		−·0012	+·0001	− 5·7	+ 1·4	·0000
50	79·6	71·0		51·4		−·0013	·0000	− 6·5	+ 1·4	−·0001
56	76·5	70·7		51·9		−·0014	+·0001	− 8·8	+ 1·6	−·0001
04 02	76·3	71·3	57·8	52·2	58·0	−·0013	+·0001	− 9·0	+ 1·5	·0000
08	75·5	71·8		50·6		−·0013	·0000	− 9·6	+ 1·4	−·0001
14	74·0	71·5		50·6		−·0013	·0000	−10·8	+ 1·4	−·0001
20	73·0	69·5		51·1		−·0015	·0000	−11·5	+ 1·6	−·0002
26	72·7	67·6		53·0		−·0017	+·0001	−11·8	+ 1·9	−·0001
32	73·9	68·7		54·9		−·0016	+·0002	−11·1	+ 1·8	·0000
38	74·5	69·7		54·0		−·0014	+·0001	−10·7	+ 1·6	−·0001
44	74·0	68·5		53·1		−·0015	+·0001	−11·1	+ 1·7	−·0001
50	74·3	67·6		59·4		−·0016	+·0003	−10·9	+ 1·9	+·0001
56	84·5	68·2		63·3		−·0015	+·0005	− 3·7	+ 2·2	+·0003
05 02	93·2	66·8	58·0	69·2	57·5	−·0017	+·0007	+ 2·4	+ 2·6	+·0004
08	95·1	71·0		67·2		−·0012	+·0006	+·3·8	+ 1·9	+·0004
14	95·6	76·0		55·7		−·0006	+·0002	+ 4·1	+ 0·9	+·0001
20	86·7	79·9		40·0		−·0001	−·0005	− 2·2	− 0·4	−·0005
26	79·3	81·3		29·2		·0000	−·0009	− 7·5	− 1·0	−·0008
32	73·5	80·2		22·8		−·0001	−·0011	−11·8	− 1·1	−·0010
38	69·5	79·8		20·4		−·0002	−·0012	−14·6	− 1·1	−·0011
44	68·9	80·3		19·9		−·0001	−·0013	−15·0	− 1·3	−·0012
50	68·7	81·4		18·8		·0000	−·0013	−15·1	− 1·4	−·0012
56	70·0	80·8		19·5		−·0001	−·0013	−14·3	− 1·3	−·0012
06 02	71·6	80·1	58·3	20·2	57·0	−·0002	−·0013	−13·2	− 1·2	−·0012
08	71·7	77·8		19·9		−·0005	−·0013	−13·0	− 0·9	−·0012
14	70·8	75·7		20·6		−·0007	−·0012	−13·6	− 0·4	−·0011
20	70·0	73·8		21·6		−·0010	−·0012	−14·1	− 0·2	−·0012
26	69·0	72·7		24·5		−·0011	−·0011	−14·7	0·0	−·0011
32	68·7	72·6		25·8		−·0011	−·0010	−14·8	+ 0·1	−·0010
38	69·1	74·8		26·9		−·0009	−·0010	−14·6	− 0·1	−·0010
44	70·5	79·9		26·9		−·0003	−·0010	−13·5	− 0·8	−·0009
50	73·2	86·1		26·4		+·0005	−·0010	−11·5	− 1·6	−·0008
56	77·8	91·4		18·1		+·0011	−·0013	− 8·2	− 2·6	−·0010
07 02	77·0	96·6	57·8	12·8	56·8	+·0017	−·0015	− 8·6	− 3·5	−·0012
08	76·0	96·7		9·8		+·0017	−·0016	− 9·3	− 3·6	−·0012
14	77·2	94·0		11·2		+·0014	−·0016	− 8·6	− 3·2	−·0013
20	77·6	94·5		10·6		+·0014	−·0016	− 8·3	− 3·2	−·0013
26	76·4	92·0		13·5		+·0011	−·0015	− 9·2	− 2·8	−·0012
32	79·5	93·0		14·0		+·0012	−·0015	− 7·0	− 2·9	−·0012
38	77·8	94·0		11·1		+·0014	−·0016	− 8·2	− 3·2	−·0013
44	75·9	92·4		9·7		+·0012	−·0016	− 9·6	− 3·0	−·0013
50	74·0	89·6		12·5		+·0008	−·0015	−11·1	− 2·5	−·0012
56	74·8	88·5		14·8		+·0007	−·0014	−10·5	− 2·3	−·0012
08 02	75·9	88·0	57·8	17·1	56·8	+·0006	−·0013	− 9·7	− 1·9	−·0011
08	76·5	86·9		18·5		+·0005	−·0013	− 9·3	− 1·9	−·0011
14	77·1	87·2		21·1		+·0005	−·0011	− 8·9	− 1·7	−·0009
20	79·8	84·0		23·9		+·0001	−·0010	− 7·1	− 1·2	−·0009
26	82·1	83·0		29·4		·0000	−·0008	− 5·5	− 0·9	−·0007
32	87·0	80·4		34·3		−·0003	−·0006	− 2·0	− 0·3	−·0006
38	90·8	76·9		37·9		−·0007	−·0004	+ 0·6	+ 0·3	−·0004
44	93·1	71·1		37·1		−·0014	−·0005	+ 2·2	+ 1·0	−·0006
50	88·5	70·1		40·0		−·0016	−·0003	− 1·1	+ 1·4	−·0004
56	87·7	66·2		46·2		−·0020	−·0001	− 1·7	+ 1·9	−·0003
09 02	94·3	70·4	57·4	50·7	56·5	−·0015	+·0001	+ 2·9	+ 1·7	−·0001
08	96·6	76·0		45·4		−·0009	−·0001	+ 4·7	+ 0·9	−·0002
14	95·3	79·8		38·4		−·0004	−·0005	+ 3·7	− 0·1	−·0005
20	93·0	79·3		32·5		−·0005	−·0007	+ 2·1	− 0·2	−·0007
26	94·5	76·4		30·5		− 0008	−·0008	+ 3·2	0·0	−·0008
32	88·3	74·4		33·4		−·0011	−·0007	− 1·2	+ 0·4	−·0007

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OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 2m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
						$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta \psi$	$\Delta \theta$	$\frac{\Delta \phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
5 09 38	89·7	71·0		36·2		−·0015	−·0007	− 0·2	+ 0·9	−·0008
44	90·0	70·0		39·3		−·0016	−·0006	0·0	+ 1·1	−·0007
50	91·6	67·1		44·2		−·0020	−·0004	+ 1·2	+ 1·7	−·0006
56	93·5	66·2		46·7		−·0021	−·0003	+ 2·5	+ 1·9	−·0005
10 02	93·1	67·2	56·8	47·3	55·8	−·0020	−·0003	+ 2·2	+ 1·8	−·0005
08	93·9	68·3		46·8		−·0019	−·0004	+ 2·9	+ 1·6	−·0006
11 02	95·2	61·6	56·5	64·8	54·0	−·0025	·0000	+ 4·9	+ 2·7	−·0003
12 02	91·2	62·0	56·5	62·8	54·8	−·0023	·0000	+ 2·9	+ 2·5	−·0003
13 02	95·0	58·7	57·5	53·3	55·5	−·0021	−·0003	+ 5·7	+ 1·9	−·0005
14 02	100·5	55·4	58·0	63·7	56·4	−·0022	+·0002	+ 8·0	+ 2·6	−·0001
15 02	100·6	58·5	58·8	52·7	58·0	−·0016	·0000	+ 5·9	+ 1·7	−·0002
16 02	101·8	63·9	59·5	48·4	58·5	−·0010	·0000	+ 5·1	+ 1·1	−·0001
17 02	100·8	60·9	59·8	51·5	58·8	−·0016	−·0002	+ 3·8	+ 1·5	−·0003
18 02	101·0	66·6	60·0	50·9	59·0	−·0011	·0000	+ 4·1	+ 1·2	−·0001
19 02	104·5	55·2	60·6	58·7	59·5	−·0023	+·0004	+ 7·3	+ 2·9	+·0001
20 02	101·4	52·2	61·0	68·5	59·6	−·0028	+·0009	+ 6·3	+ 4·0	+·0005
21 02	90·0	47·8	61·4	69·4	59·6	−·0032	+·0010	− 0·7	+ 4·5	+·0005
22 02	68·6	43·9	61·4	63·9	59·4	−·0037	+·0008	−14·8	+ 4·8	+·0003
08	71·3	47·9		62·8		−·0031	+·0007	−12·9	+ 4·3	+·0003
14	74·3	49·0		61·0		−·0035	+·0007	−10·8	+ 4·1	+·0003
20	76·7	46·3		61·9		−·0040	+·0007	− 9·0	+ 4·5	+·0002
26	77·9	41·6		61·9		−·0040	+·0007	− 8·1	+ 5·1	+·0002
32	75·6	41·5		62·9		−·0043	+·0008	− 9·7	+ 5·2	+·0003
38	75·0	39·1		62·9		−·0043	+·0008	−10·1	+ 5·5	+·0002
44	73·4	39·0		64·2		−·0042	+·0008	−11·3	+ 5·5	+·0002
50	74·4	40·1		64·8		−·0039	+·0009	−10·5	+ 5·5	+·0003
56	77·1	42·5		64·8		−·0039	+·0009	− 8·5	+ 5·2	+·0004
23 02	78·4	42·5	61·5	63·8	59·5	−·0039	+·0008	− 7·6	+ 5·1	+·0003
08	77·8	43·8		56·0		−·0038	+·0005	− 7·9	+ 4·6	·0000
14	69·6	49·4		50·3		−·0031	+·0003	−13·6	+ 3·7	−·0001
20	64·9	62·0		39·2		−·0016	−·0001	−16·9	+ 1·6	−·0003
26	63·5	76·7		31·1		+·0002	−·0004	−17·8	− 0·7	−·0003
32	72·9	74·4		29·4		−·0001	−·0005	−11·1	− 0·4	−·0005
38	79·4	65·1		32·7		−·0012	−·0003	− 6·3	+ 1·0	−·0004
44	76·8	54·7		35·7		−·0025	−·0002	− 8·0	+ 2·5	−·0005
50	72·4	55·3		39·5		−·0024	·0000	−11·0	+ 2·6	−·0003
56	71·8	53·2		40·9		−·0027	·0000	−11·4	+ 2·9	−·0003
6 00 02	69·5	51·3	61·4	43·2	59·8	−·0029	+·0001	−12·9	+ 3·2	−·0002
08	70·1	50·2		47·5		−·0031	+·0003	−12·6	+ 3·7	−·0001
14	72·4	48·1		49·6		−·0033	+·0004	−11·0	+ 4·0	·0000
20	73·2	48·6		52·2		−·0032	+·0005	−10·4	+ 4·0	+·0001
26	74·8	49·3		53·3		−·0032	+·0005	− 9·3	+ 4·0	+·0001
32	75·8	49·0		53·8		−·0032	+·0005	− 8·6	+ 4·0	+·0001
38	76·8	49·4		54·4		−·0032	+·0005	− 8·0	+ 4·0	+·0001
44	77·7	48·8		55·0		−·0033	+·0005	− 7·4	+ 4·1	+·0001
50	79·1	50·3		55·8		−·0031	+·0006	− 6·5	+ 4·0	+·0002
56	78·5	55·2		50·9		−·0025	+·0004	− 6·9	+ 3·1	+·0001
01 02	77·3	56·4	61·0	45·9	59·5	−·0024	+·0001	− 7·8	+ 2·7	−·0002
08	73·1	58·7		41·6		−·0021	·0000	−10·8	+ 2·3	−·0002
14	72·8	60·0		39·7		−·0019	−·0001	−11·0	+ 1·9	−·0003
20	72·0	59·6		39·1		−·0020	−·0002	−11·5	+ 1·9	−·0004
26	71·7	59·0		39·5		−·0021	−·0001	−11·7	+ 2·2	−·0003
32	72·0	63·1		35·5		−·0016	−·0003	−11·5	+ 1·4	−·0004
38	74·1	71·0		31·4		−·0007	−·0005	− 9·9	+ 0·2	−·0005
44	76·0	76·1		28·6		−·0001	−·0006	− 8·5	− 0·4	−·0005
50	74·2	72·8		21·0		−·0005	−·0009	− 9·8	− 0·4	−·0009
56	71·2	69·6		18·2		−·0009	−·0010	−11·9	− 0·1	−·0010
02 02	65·9	70·1	60·8	17·3	59·0	−·0008	−·0011	−15·6	− 0·3	−·0011
08	64·3	74·3		19·5		−·0003	−·0010	−16·7	− 0·8	−·0009
14	69·8	72·4		23·2		−·0005	−·0008	−12·8	− 0·3	−·0008
20	74·1	60·7		26·5		−·0019	−·0007	− 9·7	+ 1·3	−·0008

1843. Van Diemen Island. April 6.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 2m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours. $\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
6 02 26	72·0	56·3		30·6		−·0024	−·0005	−11·2	+ 1·9	−·0007
32	69·3	59·0		36·6		−·0021	−·0003	−13·1	+ 1·9	−·0005
38	71·5	61·8		37·5		−·0018	−·0003	−11·5	+ 1·6	−·0005
44	74·3	58·5		37·9		−·0022	−·0003	− 9·4	+ 1·9	−·0005
50	75·2	53·9		38·3		−·0027	−·0002	− 8·8	+ 2·7	−·0005
56	72·1	52·5		38·4		−·0028	−·0002	−11·0	+ 2·8	−·0005
03 02	69·3	55·9	60·5	39·1	59·0	−·0024	−·0002	−12·9	+ 2·4	−·0004
08	70·7	58·2		40·0		−·0022	−·0002	−12·1	+ 2·2	−·0004
14	73·4	58·2		41·0		−·0022	−·0002	−10·2	+ 2·2	−·0004
20	75·7	57·7		42·9		−·0023	−·0001	− 8·7	+ 2·4	−·0002
26	77·4	56·9		42·3		−·0024	−·0001	− 7·6	+ 2·5	−·0004
32	78·3	57·4		45·9		−·0024	·0000	− 7·1	+ 2·6	−·0003
38	79·4	58·0		45·9		−·0023	·0000	− 6·4	+ 2·5	−·0003
44	80·0	57·8		46·2		−·0024	·0000	− 6·1	+ 2·6	−·0003
50	80·4	57·5		46·0		−·0025	·0000	− 5·9	+ 2·7	−·0003
56	80·4	—		—		—	—	− 6·1	—	—
04 02	81·8	59·1	59·8	56·9	57·8	−·0023	+·0002	− 5·1	+ 2·7	−·0001

1843. Cape of Good Hope. April 5.

CAPE OF GOOD HOPE, 1843. APRIL 5.

MEAN MONTHLY READINGS OF THE MAGNETOMETERS.

Mean Göttingen Time.	Declination.	H. F. at 64°·0.	V. F. at 64°·0.	Mean Göttingen Time.	Declination.	H. F. at 64°·0.	V. F. at 64°·0.
Hours.	Sc. Div.	Sc. Div.	Sc. Div.	Hours.	Sc. Div.	Sc. Div.	Sc. Div.
00	45·7	69·6	38·7	12	46·6	67·9	42·5
01	47·0	69·3	38·7	13	46·8	68·9	42·2
02	47·4	69·5	39·8	14	46·8	69·1	42·1
03	47·4	69·6	41·4	15	46·9	69·0	42·2
04	46·7	69·7	42·8	16	47·0	69·2	42·1
05	46·1	69·7	43·2	17	46·9	69·3	42·1
06	46·0	68·8	43·4	18	47·0	69·6	42·2
07	46·2	67·9	43·4	19	46·4	70·5	43·1
08	46·2	67·0	43·4	20	44·3	71·4	44·8
09	46·2	67·1	43·2	21	42·5	71·2	44·7
10	46·1	67·5	42·9	22	42·4	70·2	42·7
11	46·1	67·4	42·8	23	44·0	69·7	40·0

Coefficients (A), Approximate Absolute Values (B.)

(A) Declin. $a = 0'·751$

H. F. $k = ·00018$, $q = ·00028$

V. F. $k = ·00016$, $q = ·00005$

(B) Approx. $\psi = 29°\,05'$, $X = 4·46$, $Y = 6·00$, $\theta = -53°\,14'$, $\phi = 7·50$

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours. $\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
5 08 32	35·3	52·4	65·4	56·0	65·2	−·0022	+·0021	− 8·2	+ 7·1	+·0006
37	34·4	52·5		55·2		−·0022	+·0020	− 8·9	+ 6·9	+·0005
42	34·0	53·2		55·2		−·0021	+·0020	− 9·2	+ 6·8	+·0005
47	33·5	51·6		54·0		−·0024	+·0018	− 9·5	+ 6·9	+·0003
52	34·4	51·0		53·8		−·0025	+·0018	− 8·9	+ 7·1	+·0003
57	34·3	51·0		53·9		−·0025	+·0018	− 8·9	+ 7·1	+·0003
09 02	34·0	51·0	65·4	53·6	65·3	−·0025	+·0017	− 9·2	+ 6·9	+·0002
07	33·5	51·4		53·1		−·0024	+·0016	− 9·5	+ 6·6	+·0002
12	33·1	52·2		53·0		−·0023	+·0016	− 9·8	+ 6·4	+·0002
17	33·0	52·5		52·1		−·0023	+·0015	− 9·9	+ 6·3	+·0001

1843.
Cape of Good Hope.

April 5.

OBSERVATIONS OF THE MAGNETOMETERS. The Declination was observed 2m. before, and the V. F. 1m. after the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta \psi$	$\Delta \theta$	$\frac{\Delta \phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm.	Sc. Div.	Therm.	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
			°		°					
5 09 22	33·3	52·9		51·3		−·0022	+·0014	− 9·7	+ 5·9	+·0001
27	33·6	53·9		49·9		−·0020	+·0012	− 9·5	+ 5·3	+·0001
32	33·9	54·6		49·1		−·0019	+·0010	− 9·2	+ 4·8	·0000
37	33·8	55·0		48·3		−·0018	+·0009	− 9·2	+ 4·4	−·0001
42	33·8	56·0		47·6		−·0017	+·0008	− 9·2	+ 4·1	−·0001
47	33·3	56·2		47·5		−·0017	+·0008	− 9·6	+ 4·1	−·0001
52	33·4	56·6		46·9		−·0016	+·0007	− 9·5	+ 3·8	−·0001
57	33·5	57·0		45·9		−·0015	+·0005	− 9·5	+ 3·3	−·0002
10 02	33·9	57·2	65·3	45·4	65·4	−·0015	+·0005	− 9·2	+ 3·3	−·0002
07	33·8	57·2		44·6		−·0015	+·0003	− 9·2	+ 3·0	−·0003
12	33·3	57·8		44·6		−·0014	+·0003	− 9·6	+ 2·8	−·0003
17	33·6	58·2		43·7		−·0013	+·0002	− 9·4	+ 2·5	−·0003
22	33·7	59·2		43·3		−·0011	+·0001	− 9·3	+ 2·0	−·0003
27	33·9	60·6		42·1		−·0009	−·0001	− 9·2	+ 1·3	−·0004
32	34·0	61·7		41·7		−·0007	−·0001	− 9·1	+ 1·0	−·0003
37	34·0	62·3		41·7		−·0005	−·0001	− 9·1	+ 0·7	−·0002
42	33·5	62·3		40·9		−·0005	−·0002	− 9·5	+ 0·5	−·0003
47	33·1	63·3		40·5		−·0003	−·0003	− 9·8	+ 0·0	−·0003
52	33·0	63·1		40·5		−·0004	−·0003	− 9·8	+ 0·2	−·0003
57	32·2	62·8		41·1		−·0004	−·0002	−10·4	+ 0·3	−·0003
11 02	32·2	64·2	65·4	38·6	65·3	−·0002	−·0006	−10·4	− 0·7	−·0005
07	32·8	65·0		37·1		·0000	−·0008	−10·0	− 1·3	−·0005
12	33·0	66·2		38·2		+·0002	−·0007	− 9·9	− 1·5	−·0004
17	33·5	68·0		36·6		+·0005	−·0009	− 9·5	− 2·3	−·0004
22	33·4	69·6		35·2		+·0008	−·0011	− 9·7	− 3·1	−·0004
27	33·6	70·1		34·1		+·0009	−·0013	− 9·5	− 3·6	−·0005
32	34·1	72·8		33·1		+·0013	−·0015	− 9·2	− 4·6	−·0005
37	34·1	74·1		31·7		+·0016	−·0017	− 9·2	− 5·4	−·0005
42	34·4	73·9		31·6		+·0015	−·0017	− 9·0	− 5·3	−·0006
47	34·9	73·4		30·8		+·0014	−·0018	− 8·7	− 5·3	−·0007
52	35·0	72·8		30·8		+·0013	−·0018	− 8·6	− 5·1	−·0007
57	35·3	71·9		31·1		+·0011	−·0018	− 8·5	− 4·8	−·0008
12 02	35·4	72·0	65·4	31·1	65·4	+·0011	−·0018	− 8·4	− 4·8	−·0008
07	35·6	72·0		31·1		+·0011	−·0018	− 8·3	− 4·8	−·0008
12	35·9	72·3		30·7		+·0011	−·0018	− 8·0	− 4·8	−·0008
17	35·9	72·8		30·7		+·0012	−·0018	− 8·1	− 4·9	−·0007
22	35·9	72·5		30·7		+·0011	−·0018	− 8·1	− 4·8	−·0008
27	35·9	72·5		31·2		+·0011	−·0017	− 8·1	− 4·6	−·0007
32	35·9	73·0		31·2		+·0012	−·0017	− 8·1	− 4·8	−·0007
37	35·9	73·6		31·2		+·0013	−·0017	− 8·1	− 4·9	−·0006
42	35·9	73·6		31·2		+·0012	−·0017	− 8·1	− 4·8	−·0007
47	35·9	73·2		31·2		+·0012	−·0017	− 8·2	− 4·8	−·0007
52	35·9	72·3		31·3		+·0010	−·0017	− 8·2	− 4·4	−·0007
57	36·6	72·9		30·6		+·0010	−·0018	− 7·7	− 4·6	−·0008
13 02	37·2	74·0	65·1	29·4	65·2	+·0012	−·0020	− 7·2	− 5·3	−·0009
07	38·4	75·2		27·2		+·0014	−·0023	− 6·3	− 6·1	−·0010
12	36·3	78·5		24·7		+·0020	−·0027	− 7·9	− 7·7	−·0010
17	40·7	80·8		23·5		+·0024	−·0029	− 4·6	− 8·7	−·0010
22	43·0	85·6		20·7		+·0033	−·0034	− 2·9	−11·0	−·0010
27	42·9	89·0		18·7		+·0039	−·0037	− 2·9	−12·5	−·0010
32	43·4	91·0		16·9		+·0043	−·0040	− 2·6	−13·7	−·0010
37	44·2	91·3		18·5		+·0043	−·0037	− 2·0	−13·2	−·0008
42	44·0	90·6		16·4		+·0042	−·0041	− 2·1	−13·7	−·0011
47	44·9	87·7		17·7		+·0026	−·0039	− 1·4	−12·4	−·0012
52	44·3	86·1		19·9		+·0034	−·0035	− 1·9	−11·4	−·0010
57	44·1	84·3		22·2		+·0030	−·0031	− 2·0	−10·1	−·0009
14 02	42·1	84·0	65·0	23·5	65·1	+·0030	−·0029	− 3·5	− 9·7	−·0008
07	41·6	84·0		23·8		+·0030	−·0029	− 3·9	− 9·7	−·0008
12	41·2	83·6		24·4		+·0029	−·0028	− 4·2	− 9·4	−·0008
17	41·1	83·5		25·4		+·0029	−·0026	− 4·3	− 9·1	−·0006
22	41·0	83·1		25·9		+·0028	−·0025	− 4·4	− 8·7	−·0006
27	40·9	83·0		26·5		+·0028	−·0025	− 4·4	− 8·7	−·0006

1843.
Cape of Good Hope.
April 5.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours. $\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	″	Parts of Total Force.
5 14 32	40·9	82·9		26·7		+·0028	−·0024	− 4·4	− 8·6	−·0005
37	40·6	82·8		27·8		+·0028	−·0023	− 4·7	− 8·4	−·0005
42	40·4	83·0		28·3		+·0028	−·0022	− 4·9	− 8·2	−·0004
47	40·2	82·9		28·9		+·0028	−·0021	− 5·0	− 8·1	−·0003
52	40·2	82·3		28·8		+·0027	−·0021	− 5·0	− 7·9	−·0004
57	40·2	82·3		29·1		+·0027	−·0021	− 5·0	− 7·9	−·0004
15 02	40·4	82·7	65·0	29·0	65·1	+·0028	−·0021	− 4·9	− 8·1	−·0003
16 02	41·3	82·5	64·8	28·5	64·9	+·0031	−·0021	− 4·3	− 8·6	−·0002
17 02	41·5	85·5	64·6	31·1	64·8	+·0031	−·0017	− 4·1	− 7·9	·0000
18 02	39·7	88·3	64·5	34·6	64·6	+·0035	−·0012	− 5·5	− 7·7	+·0005
19 02	40·1	89·1	64·4	34·4	64·6	+·0035	−·0014	− 4·7	− 8·1	+·0004
20 02	39·1	86·7	64·4	35·9	64·6	+·0029	−·0014	− 3·9	− 7·1	+·0001

1843.
Toronto.
April 5.

TORONTO, 1843. APRIL 5—6.

MEAN MONTHLY READINGS OF THE MAGNETOMETERS.

Mean Göttingen Time.	Declination.	H. F. at 53°·1.	V. F. at 53°·0.	Mean Göttingen Time.	Declination.	H. F. at 53°·1.	V. F. at 53°·0.
Hours.	Sc. Div.	Sc. Div.	Sc. Div.	Hours.	Sc. Div.	Sc. Div.	Sc. Div.
00	132·6	92·6	24·2	12	125·6	104·3	24·9
01	133·8	91·8	23·8	13	126·7	101·7	24·8
02	133·3	88·7	23·6	14	128·9	97·5	24·2
03	130·0	85·3	22·8	15	128·2	98·5	23·6
04	126·7	84·0	22·1	16	129·0	99·6	23·0
05	123·8	85·1	21·8	17	127·7	99·0	22·1
06	120·3	89·4	22·4	18	129·0	97·2	21·9
07	118·8	95·5	23·2	19	128·1	95·8	22·3
08	118·9	102·7	24·1	20	128·8	94·3	22·2
09	120·3	106·5	24·6	21	127·9	93·7	21·5
10	122·1	107·9	25·0	22	129·9	96·4	22·2
11	123·2	107·1	24·9	23	130·7	97·4	22·9

Coefficients (A), Approximate Absolute Values (B).

(A)
- Declin. a = 0′·721
- H. F. k = ·000099, q = ·00027
- V. F. k = ·000094, q = ·00007

(B) Approx.
- ψ = 1° 23′
- X = 3·54
- Y = 13·44
- θ = 75° 16′
- ϕ = 13·90

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours. $\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	″	Parts of Total Force.
5 10 02	108·9	78·1	53·5	49·0	53·6	−·0028	+·0023	− 9·5	+ 4·3	+·0020
17	105·2	78·2		45·7		−·0028	+·0020	−12·3	+ 4·1	+·0017
22	104·4	73·5		45·7		−·0033	+·0020	−13·1	+ 4·5	+·0017
27	106·1	82·7		45·9		−·0024	+·0020	−11·9	+ 3·7	+·0017
32	101·9	91·7		46·5		−·0015	+·0020	−14·9	+ 3·0	+·0018
37	100 2	91·5		48·2		−·0015	+·0022	−16·2	+ 3·1	+·0020
42	100·6	94·6		48·2		−·0012	+·0022	−15·9	+ 2·9	+·0020
47	95·7	94·7		51·F		−·0011	+·0025	−19·5	+ 3·1	+·0023
52	98·7	86·8		53·2		−·0019	+·0027	−17·5	+ 3·9	+·0024
57	106·9	86·2		48·1		−·0020	+·0022	−11·6	+ 3·6	+·0019
11 02	101·0	81·1	53·5	47·2	52·8	−·0025	+·0021	−15·9	+ 3·9	+·0018
07	94·3	72·6		54·8		−·0033	+·0028	−21·0	+ 5·1	+·0024
12	98·0	59·5		52·5		−·0046	+·0026	−18·4	+ 6·1	+·0021
17	108·9	54·2		49·1		−·0051	+·0023	−10·7	+ 6·3	+·0018
22	110·7	56·1		48·3		−·0049	+·0022	− 9·6	+ 6·0	+·0017

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OBSERVATIONS OF THE MAGNETOMETERS. The Declination was observed 2m. before, and the V. F. 1m. after the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. a	Sc. Div.	Therm. o	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
5 11 27	114·4	60·1		47·5		−·0044	+·0021	− 7·1	+ 5·5	+·0017
32	112·1	65·6		46·8		−·0039	+·0021	− 8·8	+ 5·1	+·0017
37	110·2	65·7		48·2		−·0038	+·0022	−10·4	+ 5·1	+·0018
42	108·4	68·1		49·4		−·0036	+·0023	−11·8	+ 5·0	+·0019
47	104·2	70·4		50·2		−·0033	+·0024	−15·0	+ 4·8	+·0020
52	105·8	68·7		49·8		−·0035	+·0023	−14·0	+ 4·9	+·0019
57	103·8	62·5		50·3		−·0041	+·0024	−15·5	+ 5·5	+·0020
12 02	106·0	60·3	53·5	49·6	53·0	−·0043	+·0023	−14·1	+ 5·6	+·0019
07	109·5	60·6		47·6		−·0042	+·0021	−11·6	+ 5·3	+·0017
12	106·8	61·7		47·6		−·0041	+·0022	−13·7	+ 5·3	+·0018
17	106·5	61·7		49·4		−·0041	+·0023	−14·0	+ 5·4	+·0019
22	107·5	59·9		50·1		−·0042	+·0024	−13·4	+ 5·6	+·0020
27	108·9	59·8		48·7		−·0042	+·0023	−12·3	+ 5·5	+·0019
32	109·7	59·7		48·7		−·0042	+·0023	−11·8	+ 5·5	+·0019
37	109·6	62·9		49·0		−·0038	+·0023	−11·9	+ 5·1	+·0019
42	109·0	66·7		51·1		−·0035	+·0025	−12·4	+ 5·1	+·0021
47	106·7	66·9		51·1		−·0034	+·0025	−14·2	+ 5·0	+·0021
52	106·9	64·6		51·5		−·0036	+·0025	−14·1	+ 5·1	+·0021
57	109·7	59·8		52·0		−·0041	+·0026	−12·1	+ 5·7	+·0022
13 02	118·2	63·2	53·5	52·5	53·5	−·0037	+·0026	− 6·2	+ 5·3	+·0022
07	123·7	60·8		53·7		−·0039	+·0028	− 2·3	+ 5·7	+·0024
12	135·0	42·7		51·1		−·0057	+·0025	+ 5·6	+ 6·9	+·0020
17	149·3	50·2		52·4		−·0049	+·0027	+15·9	+ 6·4	+·0022
22	157·9	44·9		46·8		−·0054	+·0021	+22·0	+ 6·3	+·0016
27	164·6	47·5		35·7		−·0052	+·0011	+26·6	+ 5·3	+·0007
32	161·6	38·2		30·3		−·0061	+·0006	+24·4	+ 5·7	+·0002
37	154·9	35·8		26·0		−·0063	+·0002	+19·3	+ 5·5	−·0002
42	143·0	37·5		27·3		−·0061	+·0003	+10·7	+ 5·4	−·0001
47	143·0	42·2		28·0		−·0056	+·0004	+10·6	+ 5·1	·0000
52	134·7	27·8		28·3		−·0070	+·0004	+ 4·4	+ 6·3	−·0001
57	133·9	21·9		28·9		−·0076	+·0005	+ 3·7	+ 6·8	·0000
14 02	135·4	29·2	52·9	28·8	53·4	−·0068	+·0005	+ 4·7	+ 6·2	·0000
07	135·1	35·6		29·0		−·0062	+·0005	+ 4·5	+ 5·7	+·0001
12	130·4	35·6		29·2		−·0062	+·0005	+ 1·1	+ 5·7	+·0001
17	127·6	37·5		31·3		−·0060	+·0007	− 0·8	+ 5·7	+·0003
22	127·1	36·8		31·8		−·0061	+·0008	− 1·1	+ 5·8	+·0004
27	127·8	40·5		31·9		−·0058	+·0008	− 0·6	+ 5·6	+·0004
32	127·8	40·7		31·5		−·0058	+·0007	− 0·6	+ 5·5	+·0003
37	127·6	40·7		31·6		−·0058	+·0008	− 0·6	+ 5·6	+·0004
42	127·0	43·9		33·4		−·0055	+·0009	− 1·1	+ 5·4	+·0005
47	128·0	43·5		34·6		−·0055	+·0010	− 0·3	+ 5·5	+·0006
52	126·7	43·7		35·7		−·0055	+·0011	− 1·1	+ 5·6	+·0007
57	128·1	48·9		36·4		−·0051	+·0012	− 0·1	+ 5·3	+·0008
15 02	128·4	49·5	52·5	36·1	53·2	−·0050	+·0012	+ 0·1	+ 5·2	+·0008
07	124·9	41·1		34·3		−·0059	+·0010	− 2·5	+ 5·8	+·0006
12	125·9	37·6		32·3		−·0062	+·0008	− 1·7	+ 5·9	+·0004
17	124·7	41·6		34·4		−·0058	+·0010	− 2·7	+ 5·8	+·0006
22	128·0	42·2		34·5		−·0058	+·0010	− 0·4	+ 5·8	+·0006
27	131·5	43·1		33·8		−·0057	+·0010	+ 2·2	+ 5·7	+·0006
32	131·0	42·8		33·5		−·0059	+·0010	+ 1·7	+ 5·8	+·0006
37	130·0	43·0		33·3		−·0058	+·0009	+ 0·9	+ 5·7	+·0005
42	128·0	40·8		32·2		−·0060	+·0008	− 0·5	+ 5·8	+·0004
47	128·0	39·9		31·6		−·0061	+·0008	− 0·6	+ 5·8	+·0004
52	131·3	39·3		31·2		−·0062	+·0007	+ 1·7	+ 5·8	+·0003
57	134·0	37·6		30·3		−·0064	+·0007	+ 3·7	+ 6·0	+·0002
16 02	135·8	39·0	52·2	29·8	52·7	−·0063	+·0006	+ 4·9	+ 5·8	+·0002
07	135·5	38·1		29·0		−·0064	+·0006	+ 4·7	+ 5·9	+·0002
12	135·3	37·9		29·1		−·0064	+·0006	+ 4·7	+ 5·9	+·0002
17	136·3	38·9		28·2		−·0063	+·0005	+ 5·4	+ 5·8	+·0001
22	131·7	39·4		28·1		−·0062	+·0005	+ 2·3	+ 5·7	+·0001
27	135·0	37·5		28·1		−·0064	+·0005	+ 4·7	+ 5·8	+·0001
32	133·9	35·9		29·2		−·0066	+·0006	+ 4·0	+ 6·1	+·0001

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OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm.	Sc. Div.	Therm.	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Part of Total Force.
5 16 37	132·0	41·9		30·5		−·0060	+·0007	+ 2·8	+ 5·7	+·0003
42	129·6	42·6		31·3		−·0059	+·0008	+ 1·1	+ 5·7	+·0004
47	128·9	44·6		30·8		−·0057	+·0008	+ 0·6	+ 5·5	+·0004
52	126·1	43·8		28·6		−·0058	+·0006	− 1·3	+ 5·4	+·0002
57	119·8	35·6		27·1		−·0066	+·0004	− 5·8	+ 5·9	·0000
17 02	118·0	35·3	51·9	27·7	52·5	−·0066	+·0005	− 7·0	+ 6·0	·0000
07	120·1	22·1		27·4		−·0079	+·0005	− 5·5	+ 7·1	·0000
12	129·6	32·1		29·1		−·0069	+·0006	+ 1·2	+ 6·3	+·0001
17	136·8	28·4		26·6		−·0073	+·0004	+ 6·4	+ 6·5	−·0001
22	139·0	31·8		26·1		−·0070	+·0003	+ 7·8	+ 6·2	−·0002
27	140·1	39·1		27·4		−·0062	+·0005	+ 8·5	+ 5·7	+·0001
32	138·2	37·3		25·9		−·0064	+·0003	+ 7·1	+ 5·7	−·0001
37	133·9	36·8		25·1		−·0065	+·0002	+ 3·9	+ 5·7	−·0002
42	132·6	35·3		23·7		−·0066	+·0001	+ 2·9	+ 5·7	−·0003
47	132·1	33·2		23·1		−·0068	+·0001	+ 2·5	+ 5·8	−·0003
52	131·8	—		—		—	—	+ 2·2	—	—
57	133·0	27·4		22·6		−·0074	·0000	+ 3·0	+ 6·3	−·0005
18 02	135·4	29·6	51·4	23·2	52·2	−·0072	+·0001	+ 4·6	+ 6·2	−·0004
07	136·9	32·4		23·7		−·0069	+·0001	+ 5·8	+ 5·9	−·0003
12	139·0	32·7		23·4		−·0068	+·0001	+ 7·3	+ 5·8	−·0003
17	139·6	31·2		22·5		−·0070	·0000	+ 7·8	+ 5·9	−·0004
22	140·5	31·0		22·0		−·0070	−·0001	+ 8·5	+ 5·8	−·0005
27	138·7	25·9		20·3		−·0075	−·0002	+ 7·3	+ 6·2	−·0007
32	137·9	24·0		21·2		−·0077	−·0001	+ 6·8	+ 6·4	−·0006
37	137·7	22·6		20·1		−·0078	−·0002	+ 6·6	+ 6·4	−·0007
42	137·3	18·0		19·4		−·0083	−·0003	+ 6·4	+ 6·8	−·0008
47	136·9	20·4		19·4		−·0081	−·0003	+ 6·2	+ 6·6	−·0008
52	137·2	14·6		17·3		−·0086	−·0005	+ 6·5	+ 6·8	−·0010
57	138·6	10·9		16·8		−·0090	−·0006	+ 7·5	+ 7·1	−·0011
19 02	138·7	4·8	51·0	17·3	52·2	−·0096	−·0005	+ 7·6	+ 7·7	−·0011
07	140·6	5·0		19·5		−·0096	−·0003	+ 8·9	+ 7·9	−·0009
12	141·6	10·0		20·0		−·0090	−·0003	+ 9·7	+ 7·3	−·0009
17	140·4	9·5		19·0		−·0091	−·0004	+ 8·8	+ 7·3	−·0010
22	142·5	7·7		17·9		−·0093	−·0005	+10·2	+ 7·4	−·0011
27	140·3	5·0		17·3		−·0095	−·0005	+ 8·5	+ 7·6	−·0011
32	141·0	20·8		22·5		−·0079	·0000	+ 9·0	+ 6·7	−·0005
37	143·3	22·5		18·8		−·0077	−·0004	+10·7	+ 6·2	−·0009
42	140·6	12·7		20·1		−·0087	−·0003	+ 8·7	+ 7·1	−·0008
47	139·9	22·4		22·4		−·0077	−·0001	+ 8·1	+ 6·4	−·0006
52	139·0	23·5		21·5		−·0076	−·0001	+ 7·4	+ 6·3	−·0006
57	139·1	20·9		19·2		−·0079	−·0004	+ 7·5	+ 6·3	−·0009
20 02	140·7	14·0	51·0	16·4	52·0	−·0085	−·0006	+ 8·5	+ 6·7	−·0011
07	137·2	15·6		15·7		−·0084	−·0007	+ 6·2	+ 6·5	−·0012
12	134·1	17·4		15·2		−·0082	−·0007	+ 4·0	+ 6·3	−·0012
17	134·2	17·1		15·2		−·0082	−·0007	+ 4·0	+ 6·3	−·0012
22	137·5	11·5		16·5		−·0088	−·0006	+ 6·5	+ 6·9	−·0011
27	140·5	7·5		16·0		−·0092	−·0006	+ 8·8	+ 7·3	−·0011
32	143·3	23·0		17·0		−·0076	−·0005	+10·8	+ 6·0	−·0010
37	142·7	18·3		13·1		−·0081	−·0009	+10·4	+ 6·1	−·0014
42	143·1	23·5		11·4		−·0076	−·0010	+10·7	+ 5·6	−·0014
47	141·1	28·4		8·5		−·0071	−·0013	+ 9·4	+ 4·9	−·0017
52	136·8	18·5		5·5		−·0081	−·0016	+ 6·4	+ 5·5	−·0020
57	137·1	13·8		3·3		−·0085	−·0018	+ 6·6	+ 5·7	−·0022
21 02	140·0	15·4	50·8	3·3	52·0	−·0084	−·0018	+ 8·8	+ 5·6	−·0022
07	143·2	13·4		6·6		−·0086	−·0015	+10·9	+ 6·0	−·0020
12	142·4	16·1		8·1		−·0084	−·0013	+10·2	+ 6·0	−·0018
17	142·2	22·2		9·7		−·0078	−·0012	+10·0	+ 5·6	−·0016
22	139·6	26·7		10·5		−·0074	−·0011	+ 7·9	+ 5·3	−·0015
27	137·9	32·4		12·1		−·0068	−·0010	+ 6·6	+ 4·9	−·0014
32	139·0	38·4		12·1		−·0063	−·0010	+ 7·3	+ 4·5	−·0013
37	138·8	40·8		12·5		−·0060	−·0010	+ 7·0	+ 4·2	−·0013
42	139·6	38·6		11·1		−·0063	−·0011	+ 7·5	+ 4·4	−·0014

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OBSERVATIONS OF THE MAGNETOMETERS. The Declination was observed 2m. before, and the V. F. 1m. after the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H., M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
5 21 47	138·0	33·5		7·7		−·0068	−·0014	+ 6·2	+ 4·6	−·0017
52	133·4	30·8		7·0		−·0071	−·0015	+ 2·8	+ 4·7	−·0019
57	132·8	35·4		7·6		−·0067	−·0015	+ 2·3	+ 4·4	−·0018
22 02	132·6	34·9	50·7	6·7	51·7	−·0067	−·0015	+ 1·9	+ 4·4	−·0018
07	133·0	40·5		6·9		−·0062	−·0015	+ 2·2	+ 4·0	−·0018
12	134·3	46·6		7·8		−·0056	−·0015	+ 3·1	+ 3·5	−·0018
17	136·3	49·5		9·6		−·0053	−·0013	+ 4·4	+ 3·4	−·0016
22	135·6	54·4		10·0		−·0049	−·0013	+ 3·9	+ 3·1	−·0015
27	133·5	52·6		8·4		−·0051	−·0014	+ 2·4	+ 3·1	−·0016
32	131·8	53·6		7·2		−·0050	−·0015	+ 1·1	+ 3·0	−·0017
37	132·0	51·0		6·9		−·0052	−·0016	+ 1·1	+ 3·1	−·0018
42	134·2	49·5		7·4		−·0054	−·0015	+ 2·8	+ 3·3	−·0018
47	136·5	49·2		7·1		−·0054	−·0016	+ 4·3	+ 3·2	−·0018
52	137·8	46·9		6·3		−·0057	−·0017	+ 5·1	+ 3·4	−·0020
57	139·8	47·1		8·3		−·0057	−·0015	+ 6·6	+ 3·6	−·0018
23 02	141·1	49·1	50·5	9·0	51·6	−·0055	−·0014	+ 7·5	+ 3·5	−·0017
07	144·9	49·8		10·7		−·0054	−·0013	+10·1	+ 3·5	−·0016
12	146·4	50·1		12·1		−·0054	−·0011	+11·1	+ 3·6	−·0014
17	147·3	49·0		12·6		−·0054	−·0011	+11·6	+ 3·6	−·0014
22	150·1	49·9		15·0		−·0053	−·0009	+13·6	+ 3·7	−·0012
27	151·6	50·1		15·3		−·0053	−·0009	+14·5	+ 3·7	−·0012
32	152·3	48·9		16·2		−·0054	−·0008	+14·9	+ 3·9	−·0011
37	150·3	45·2		16·8		−·0057	−·0008	+13·4	+ 4·1	−·0011
42	148·0	44·1		18·7		−·0058	−·0006	+11·5	+ 4·4	−·0009
47	146·2	45·0		19·0		−·0057	−·0006	+10·2	+ 4·3	−·0009
52	144·1	44·5		19·8		−·0057	−·0005	+ 8·5	+ 4·4	−·0008
57	143·0	43·9		19·6		−·0058	−·0006	+ 7·6	+ 4·4	−·0009
6 00 02	142·2	45·3	49·6	20·2	51·2	−·0056	−·0005	+ 6·9	+ 4·3	−·0008
07	140·2	46·7		21·7		−·0055	−·0004	+ 5·4	+ 4·3	−·0007
12	136·9	48·7		23·1		−·0053	−·0002	+ 3·0	+ 4·3	−·0005
17	135·2	50·8		24·5		−·0051	−·0001	+ 1·6	+ 4·2	−·0004
22	135·0	56·3		24·5		−·0045	−·0001	+ 1·4	+ 3·7	−·0004
27	135·0	57·1		24·3		−·0044	−·0001	+ 1·3	+ 3·6	−·0004
32	135·5	57·6		23·2		−·0044	−·0002	+ 1·6	+ 3·6	−·0005
37	137·0	57·1		22·7		−·0044	−·0003	+ 2·7	+ 3·5	−·0006
42	138·1	56·2		22·0		−·0045	−·0003	+ 3·4	+ 3·6	−·0006
47	140·9	55·4		21·8		−·0046	−·0003	+ 5·3	+ 3·6	−·0006
52	142·3	55·6		21·6		−·0046	−·0004	+ 6·3	+ 3·6	−·0007
57	142·5	53·2		21·3		−·0048	−·0004	+ 6·4	+ 3·7	−·0007
01 02	141·3	51·8	49·6	21·5	50·8	−·0049	−·0004	+ 5·4	+ 3·8	−·0007
07	140·7	48·6		22·1		−·0052	−·0003	+ 4·9	+ 4·1	−·0006
12	139·0	44·7		21·6		−·0055	−·0004	+ 3·8	+ 4·3	−·0007
17	137·3	43·6		21·6		−·0056	−·0004	+ 2·6	+ 4·4	−·0007
22	138·8	44·8		22·2		−·0054	−·0003	+ 3·7	+ 4·3	−·0006
27	138·2	44·3		21·9		−·0054	−·0003	+ 3·3	+ 4·3	−·0006
32	137·2	43·8		21·1		−·0054	−·0004	+ 2·6	+ 4·2	−·0007
37	136·6	44·2		21·5		−·0053	−·0003	+ 2·3	+ 4·2	−·0006
42	136·9	43·7		21·7		−·0053	−·0003	+ 2·5	+ 4·2	−·0006
47	137·8	43·6		21·8		−·0053	−·0003	+ 3·2	+ 4·2	−·0006
52	137·3	42·5		22·0		−·0054	−·0003	+ 2·8	+ 4·3	−·0006
57	136·0	40·9		21·7		−·0055	−·0003	+ 1·9	+ 4·4	−·0006
02 02	135·0	40·8	50·6	20·2	51·4	−·0054	−·0004	+ 1·2	+ 4·2	−·0007
07	133·4	40·6		19·8		−·0054	−·0005	+ 0·3	+ 4·1	−·0008
12	133·0	40·8		20·1		−·0053	−·0004	+ 0·2	+ 4·1	−·0007
17	131·9	39·8		19·9		−·0054	−·0004	− 0·4	+ 4·2	−·0007
22	129·0	38·0		19·2		−·0055	−·0005	− 2·3	+ 4·2	−·0008
27	129·0	38·6		20·0		−·0054	−·0004	− 2·0	+ 4·2	−·0007
32	127·2	36·4		19·6		−·0056	−·0004	− 3·2	+ 4·4	−·0007
37	126·6	35·2		19·8		−·0056	−·0004	− 3·5	+ 4·4	−·0007
42	125·5	38·4		20·4		−·0053	−·0003	− 4·0	+ 4·2	−·0006
47	124·4	39·5		20·8		−·0051	−·0003	− 4·6	+ 4·1	−·0006
52	123·9	44·3		20·9		−·0046	−·0003	− 4·7	+ 3·6	−·0006
57	123·0	45·8		21·3		−·0044	−·0002	− 5·2	+ 3·6	−·0005

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
						$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
6 03 02	123·0	45·7	51·5	21·1	52·1	−·0044	−·0002	− 5·0	+ 3·6	−·0005
07	123·4	48·8		21·6		−·0040	−·0002	− 4·5	+ 3·2	−·0004
12	123·4	52·6		21·6		−·0036	−·0002	− 4·3	+ 2·9	−·0004
17	122·7	54·8		21·6		−·0034	−·0002	− 4·7	+ 2·7	−·0004
22	122·3	54·8		21·9		−·0034	−·0001	− 4·7	+ 2·8	−·0003
27	122·9	53·9		21·7		−·0034	−·0001	− 4·1	+ 2·8	−·0003
32	123·6	55·9		21·9		−·0032	−·0001	− 3·4	+ 2·6	−·0003
37	123·4	56·3		21·9		−·0031	−·0001	− 3·4	+ 2·5	−·0003
42	123·6	56·0		21·9		−·0032	−·0001	− 3·0	+ 2·6	−·0003
47	123·5	58·7		21·9		−·0029	−·0001	− 2·9	+ 2·4	−·0003
52	123·6	60·1		22·0		−·0027	−·0001	− 2·6	+ 2·2	−·0003
57	124·5	56·3		22·6		−·0031	·0000	− 1·8	+ 2·6	−·0002
04 02	126·7	52·7	52·0	22·3	52·3	−·0034	·0000	0·0	+ 2·9	−·0002
05 02	124·0	54·9	52·7	23·4	52·8	−·0031	+·0001	+ 0·1	+ 2·7	−·0001
06 02	120·0	58·3	53·0	23·4	53·0	−·0031	+·0001	− 0·2	+ 2·7	−·0001
07 02	119·0	64·9	53·2	23·6	53·0	−·0030	·0000	+ 0·2	+ 2·5	−·0002
08 02	120·9	71·7	53·0	23·5	53·0	−·0031	−·0001	+ 1·4	+ 2·5	−·0003
09 02	123·8	75·9	52·6	26·2	52·6	−·0032	+·0001	+ 2·6	+ 2·8	−·0001
10 02	122·0	71·9	52·8	30·7	52·6	−·0036	+·0005	− 0·1	+ 3·5	+·0002
11 02	124·5	51·9	53·1	30·3	53·0	−·0055	+·0005	− 0·9	+ 5·1	+·0001
12 02	129·0	58·2	53·2	36·0	53·0	−·0045	+·0010	+ 2·5	+ 4·6	+·0006
13 02	121·3	58·4	52·5	35·5	52·7	−·0045	+·0010	− 3·9	+ 4·6	+·0006
14 02	156·1	27·7	51·8	39·7	52·0	−·0073	+·0014	+19·5	+ 7·3	+·0008
07	177·7	27·4		37·3		−·0073	+·0012	+35·2	+ 7·2	+·0007
12	182·6	—		—		—	—	+38·8	—	—
17	176·9	42·9		27·1		−·0058	+·0002	+34·7	+ 5·1	−·0002
22	174·0	41·0		26·0		−·0060	+·0001	+32·6	+ 5·1	−·0003
27	171·0	43·7		25·2		−·0057	+·0001	+30·5	+ 4·9	−·0003
32	168·0	39·9		23·1		−·0061	−·0001	+28·4	+ 5·1	−·0005
37	162·0	41·6		23·1		−·0059	−·0001	+24·2	+ 4·9	−·0005
42	151·0	38·5		23·1		−·0063	−·0001	+16·2	+ 5·2	−·0005
47	143·5	31·1		24·9		−·0070	+·0001	+10·9	+ 6·0	−·0004
52	143·2	33·3		26·4		−·0068	+·0002	+10·7	+ 5·9	−·0002
57	139·5	34·8		28·0		−·0066	+·0004	+ 8·0	+ 5·9	·0000
15 02	140·1	37·7	51·8	27·8	52·7	−·0064	+·0004	+ 8·5	+ 5·8	·0000
07	133·5	35·8		27·8		−·0066	+·0004	+ 3·7	+ 5·9	·0000
12	127·6	38·2		29·5		−·0063	+·0006	− 0·5	+ 5·8	+·0002
17	127·8	43·2		31·9		−·0058	+·0008	− 0·4	+ 5·6	+·0004
22	127·5	44·8		32·9		−·0057	+·0009	− 0·7	+ 5·6	+·0005
27	127·0	49·0		32·9		−·0053	+·0009	− 1·1	+ 5·2	+·0005
32	125·5	52·0		32·3		−·0050	+·0008	− 2·3	+ 4·9	+·0004
37	121·5	50·7		32·0		−·0051	+·0008	− 5·1	+ 5·0	+·0004
42	122·4	50·1		31·8		−·0052	+·0008	− 4·5	+ 5·1	+·0004
47	127·2	54·5		31·8		−·0048	+·0008	− 1·1	+ 4·7	+·0004
52	129·6	55·0		30·2		−·0047	+·0006	+ 0·5	+ 4·5	+·0003
57	130·4	54·0		28·9		−·0048	+·0005	+ 1·1	+ 4·5	+·0002
16 02	131·2	59·2	52·0	28·4	52·7	−·0043	+·0005	+ 1·5	+ 4·1	+·0002
07	131·2	60·8		28·4		−·0042	+·0005	+ 1·6	+ 4·0	+·0002
12	140·7	65·4		26·9		−·0037	+·0004	+ 8·5	+ 3·5	+·0001
17	150·6	64·4		21·8		−·0038	−·0001	+15·7	+ 3·1	−·0003
22	151·6	76·3		19·0		−·0026	−·0004	+16·6	+ 1·9	−·0005
27	142·9	72·8		19·8		−·0029	−·0003	+10·4	+ 2·2	−·0005
32	149·6	70·7		17·8		−·0031	−·0005	+15·2	+ 2·2	−·0007
37	142·6	74·0		14·5		−·0028	−·0008	+10·4	+ 1·7	−·0009
42	132·0	71·7		14·5		−·0030	−·0008	+ 2·8	+ 1·9	−·0009
47	127·0	65·5		14·5		−·0036	−·0007	− 0·7	+ 2·4	−·0009
52	125·2	63·7		15·6		−·0038	−·0006	− 1·9	+ 2·7	−·0008
57	125·4	59·8		16·8		−·0042	−·0005	− 1·7	+ 3·1	−·0007
17 02	125·9	64·5	52·0	15·9	53·0	−·0037	−·0006	− 1·3	+ 2·6	−·0008
07	125·5	62·5		16·8		−·0039	−·0005	− 1·6	+ 2·9	−·0007
12	126·8	62·4		16·2		−·0039	−·0006	− 0·8	+ 2·8	−·0008
17	125·9	63·7		17·4		−·0038	−·0005	− 1·5	+ 2·8	−·0007

1843. Toronto.

April 6.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
6 17 22	125·0	60·5		18·0		−·0041	−·0004	− 2·3	+ 3·1	−·0006
27	126·7	56·4		19·5		−·0046	−·0003	− 1·1	+ 3·6	−·0006
32	129·0	56·0		20·6		−·0046	−·0002	+ 0·5	+ 3·7	−·0005
37	130·0	56·8		21·2		−·0045	−·0001	+ 1·1	+ 3·7	−·0004
42	129·5	56·4		21·9		−·0046	−·0001	+ 0·6	+ 3·8	−·0004
47	129·8	56·1		22·4		−·0046	·0000	+ 0·8	+ 3·9	−·0003
52	130·9	57·7		22·4		−·0045	·0000	+ 1·5	+ 3·8	−·0003
57	130·8	59·2		22·9		−·0043	·0000	+ 1·3	+ 3·6	−·0003
18 02	131·4	59·9	51·0	22·9	52·2	−·0043	·0000	+ 1·7	+ 3·6	−·0003

1843. St. Helena.

April 12.

For Mean Monthly Readings, *see* page 200.

ST. HELENA, 1843. APRIL 12.

12 05 02	15·7	54·0	69·0	52·3	68·5	−·0003	+·0032	+ 0·8	+ 4·1	+·0002
07	15·0	53·1		52·3		−·0005	+·0032	+ 0·4	+ 4·2	·0000
12	14·9	52·4		52·3		−·0006	+·0032	+ 0·4	+ 4·5	−·0001
17	14·4	52·0		51·9		−·0006	+·0028	0·0	+ 4·0	−·0001
22	14·3	51·2		51·9		−·0007	+·0028	− 0·1	+ 4·1	−·0002
27	14·0	51·0		51·9		−·0007	+·0028	− 0·3	+ 4·1	−·0002
32	14·0	50·4		51·9		−·0008	+·0028	− 0·2	+ 4·2	−·0003
37	13·9	50·0		51·9		−·0009	+·0029	− 0·3	+ 4·5	−·0004
42	13·6	49·8		51·9		−·0009	+·0029	− 0·5	+ 4·5	−·0004
47	13·2	49·3		51·6		−·0010	+·0026	− 0·8	+ 4·2	−·0005
52	13·0	48·8		51·6		−·0010	+·0026	− 0·8	+ 4·2	−·0005
57	12·5	47·8		51·6		−·0012	+·0026	− 1·2	+ 4·5	−·0007
06 02	12·0	46·8	69·0	51·6	68·8	−·0014	+·0026	− 1·5	+ 4·7	−·0009
07	11·8	—		—		—	—	− 1·7	—	—
12	11·8	45·3		51·6		−·0016	+·0026	− 1·8	+ 4·9	−·0010
17	11·7	45·2		51·6		−·0016	+·0026	− 1·8	+ 4·9	−·0010
22	11·8	44·6		51·6		−·0017	+·0026	− 1·8	+ 4·9	−·0011
27	11·9	44·0		51·6		−·0018	+·0026	− 1·8	+ 5·2	−·0012
32	12·2	43·2		51·6		−·0019	+·0026	− 1·5	+ 5·3	−·0013
37	12·6	43·2		51·7		−·0019	+·0026	− 1·3	+ 5·3	−·0013
42	12·8	43·2		51·6		−·0019	+·0026	− 1·2	+ 5·3	−·0013
47	12·9	43·2		51·6		−·0019	+·0026	− 1·2	+ 5·3	−·0013
52	13·0	43·8		51·6		−·0018	+·0026	− 1·1	+ 5·2	−·0012
57	13·2	44·0		51·6		−·0017	+·0026	− 1·1	+ 4·9	−·0011
07 02	13·4	44·2	69·0	51·6	68·8	−·0016	+·0026	− 0·9	+ 4·9	−·0010
07	13·5	—		—		—	—	− 0·8	—	—
12	13·7	44·2		51·6		−·0016	+·0026	− 0·8	+ 4·9	−·0010
17	13·8	44·2		51·6		−·0016	+·0026	− 0·7	+ 4·9	−·0010
22	13·7	44·2		51·6		−·0016	+·0026	− 0·8	+ 4·9	−·0010
27	13·6	44·4		51·6		−·0016	+·0026	− 0·9	+ 4·9	−·0010
32	13·4	44·2		51·6		−·0016	+·0026	− 1·1	+ 4·9	−·0010
37	13·4	44·3		51·6		−·0015	+·0026	− 1·1	+ 4·8	−·0010
42	13·1	44·0		51·6		−·0016	+·0026	− 1·3	+ 4·9	−·0010
47	13·8	44·6		51·6		−·0015	+·0026	− 0·8	+ 4·8	−·0010
52	13·9	45·0		51·6		−·0014	+·0026	− 0·8	+ 4·7	−·0009
57	13·6	44·7		51·6		−·0014	+·0026	− 1·1	+ 4·7	−·0009
08 02	13·5	44·8	68·9	51·6	68·8	−·0014	+·0026	− 1·1	+ 4·7	−·0009
07	13·7	45·1		52·3		−·0014	+·0032	− 1·0	+ 5·4	−·0008
12	13·4	45·9		52·2		−·0012	+·0032	− 1·2	+ 5·2	−·0006
17	13·3	46·2		52·2		−·0011	+·0032	− 1·3	+ 4·9	−·0005
22	13·3	46·2		52·2		−·0011	+·0032	− 1·3	+ 4·9	−·0005
27	13·3	46·5		51·9		−·0011	+·0030	− 1·3	+ 4·8	−·0006
32	13·3	47·2		51·9		−·0010	+·0031	− 1·3	+ 4·8	−·0005
37	13·3	47·7		51·9		−·0008	+·0031	− 1·3	+ 4·6	−·0003
42	13·4	48·0		51·7		−·0008	+·0029	− 1·2	+ 4·2	−·0003
47	13·6	47·9		51·7		−·0008	+·0029	− 1·1	+ 4·2	−·0003
52	13·6	47·4		51·7		−·0009	+·0030	− 1·1	+ 4·6	−·0004
57	13·7	47·2		51·6		−·0009	+·0029	− 1·0	+ 4·5	−·0004

1843.
St. Helena.
April 12.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours. $\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
12 09 02	13·8	47·3	68·9	51·6	68·8	−·0009	+·0029	− 0·9	+ 4·5	−·0004
07	13·8	—		—		—	—	− 0·9	—	—
12	13·8	48·0		51·6		−·0008	+·0029	− 0·9	+ 4·2	−·0003
17	13·9	48·8		51·7		−·0007	+·0030	− 0·8	+ 4·2	−·0002
22	14·0	48·8		51·7		−·0007	+·0030	− 0·8	+ 4·2	−·0002
27	14·0	49·0		51·7		−·0007	+·0030	− 0·8	+ 4·2	−·0002
32	14·1	49·5		51·7		−·0006	+·0030	− 0·7	+ 4·2	−·0001
37	14·2	50·0		51·7		−·0005	+·0029	− 0·6	+ 4·0	·0000
42	14·3	50·8		51·7		−·0003	+·0029	− 0·6	+ 3·8	+·0001
47	14·8	51·0		51·7		−·0003	+·0029	− 0·2	+ 3·8	+·0001
52	15·0	51·8		51·7		−·0002	+·0029	− 0·1	+ 3·5	+·0002
57	15·2	52·1		51·7		−·0001	+·0029	+ 0·1	+ 3·5	+·0003
10 02	15·2	52·2	68·5	51·7	68·4	−·0001	+·0029	+ 0·1	+ 3·5	+·0003

1843.
St. Helena.
May 6.

ST. HELENA, 1843. MAY 6.

MEAN MONTHLY READINGS OF THE MAGNETOMETERS.

Mean Göttingen Time.	Declination.	H. F. at 64°·8.	V. F. at 64°·7.	Mean Göttingen Time.	Declination.	H. F. at 64°·8.	V. F. at 64°·7.
Hours.	Sc. Div.	Sc. Div.	Sc. Div.	Hours.	Sc. Div.	Sc. Div.	Sc. Div.
00	13·9	65·4	38·5	12	14·2	55·7	38·6
01	14·6	65·5	38·7	13	14·7	57·2	38·5
02	14·4	64·8	38·9	14	14·7	57·1	38·4
03	14·5	63·2	38·9	15	14·8	57·4	38·4
04	14·5	61·6	39·0	16	14·8	57·7	38·3
05	14·4	60·5	38·9	17	14·9	57·9	38·1
06	13·6	59·5	39·0	18	15·3	58·1	38·1
07	13·6	58·7	39·0	19	15·9	58·0	38·1
08	13·8	57·6	39·1	20	16·8	58·6	38·2
09	13·9	57·1	38·9	21	15·4	59·7	38·0
10	14·1	56·6	38·8	22	13·9	61·4	38·1
11	14·1	55·8	38·7	23	13·5	63·6	38·1

Coefficients (A), Approximate Absolute Values (B).

(A) Declin. $a = 0'·711$
H. F. $k = ·00019$, $q = ·00028$
V. F. $k = ·00085$, $q = ·00002$

(B) Approx. $\psi = 23°\,13'$, $X = 5·57$, $Y = 2·22$, $\theta = -\,21°\,41'$, $\phi = 6·00$

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours. $\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
6 09 02	13·8	54·2	67·1	42·2	67·0	+·0001	+·0028	− 0·1	+ 3·2	+·0005
10 02	12·0	42·0	66·9	41·9	66·8	−·0022	+·0026	− 1·5	+ 5·7	−·0015
12	11·0	38·3		40·4		−·0029	+·0014	− 2·2	+ 4·9	− 0023
17	10·9	37·2		40·6		−·0031	+·0015	− 2·2	+ 5·4	−·0025
22	10·9	36·9		40·6		−·0031	+·0015	− 2·2	+ 5·4	−·0025
27	10·5	36·0		40·6		−·0033	+·0015	− 2·5	+ 5·7	−·0026
32	10·5	35·0		40·5		−·0035	+·0015	− 2·5	+ 5·9	−·0028
37	10·1	34·9		40·5		−·0035	+·0015	− 2·8	+ 5·9	−·0028
42	9·6	33·1		40·5		−·0038	+·0015	− 3·2	+ 6·1	−·0031
47	8·1	30·9		40·5		−·0042	+·0015	− 4·3	+ 6·7	−·0034
52	7·6	28·0		40·5		−·0048	+·0015	− 4·7	+ 7·4	−·0040
57	7·0	—		—		—	—	− 5·1	—	—
11 02	6·0	24·4	66·8	40·0	66·8	−·0054	+·0011	− 5·8	+ 7·5	−·0045
07	5·0	23·1		40·0		−·0057	+·0011	− 6·5	+ 8·0	−·0048

1843. St. Helena. May 6.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before and the V. F. 1m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
6 11 12	4·0	21·5		40·0		−·0060	+·0011	− 7·2	+ 8·2	−·0050
17	3·9	19·0		39·7		−·0064	+·0009	− 7·2	+ 8·6	−·0054
22	2·9	18·0		39·5		−·0066	+·0007	− 7·9	+ 8·6	−·0056
27	1·2	17·5		39·4		−·0067	+·0006	− 9·1	+ 8·6	−·0057
32	0·5	17·1		39·4		−·0068	+·0006	− 9·6	+ 8·7	−·0058
37	0·4	16·0		39·5		−·0070	+·0008	− 9·8	+ 9·2	−·0059
42	0·9	16·2		39·6		−·0070	+·0009	− 9·4	+ 9·3	−·0059
47	1·0	16·2		39·6		−·0070	+·0009	− 9·3	+ 9·3	−·0059
52	1·8	16·3		39·6		−·0069	+·0009	− 8·8	+ 9·2	−·0058
57	2·5	—		—		—	—	− 8·3	—	—
12 02	3·8	16·2	66·8	40·2	66·8	−·0070	+·0014	− 7·4	+ 9·9	−·0059
07	4·8	16·9		40·7		−·0068	+·0018	− 6·7	+10·1	−·0056
12	5·5	18·2		40·7		−·0066	+·0018	− 6·3	+ 9·9	−·0055
17	6·0	20·3		40·8		−·0063	+·0019	− 5·9	+ 9·7	−·0052
22	6·9	21·9		40·8		−·0060	+·0019	− 5·4	+ 9·3	−·0049
27	7·7	23·2		40·9		−·0057	+·0020	− 4·8	+ 8·9	−·0047
32	8·2	24·2		40·9		−·0056	+·0020	− 4·4	+ 8·9	−·0046
37	8·9	25·5		41·2		−·0054	+·0023	− 4·0	+ 8·9	−·0044
42	9·8	27·1		41·4		−·0051	+·0025	− 3·3	+ 8·9	−·0041
47	10·0	28·1		41·3		−·0049	+·0024	− 3·2	+ 8·6	−·0039
52	10·0	29·0		41·3		−·0048	+·0024	− 3·2	+ 8·5	−·0038
57	10·0	29·1		41·3		−·0048	+·0024	− 3·3	+ 8·5	−·0038

1843. Cape of Good Hope. May 6.

CAPE OF GOOD HOPE, 1843. MAY 6—7.

MEAN MONTHLY READINGS OF THE MAGNETOMETERS.

Mean Göttingen Time.	Declination.	H. F. at 60°·8.	V. F. at 61°·0.	Mean Göttingen Time.	Declination.	H. F. at 60°·8.	V. F. at 61°·0.
Hours.	Sc. Div.	Sc. Div.	Sc. Div.	Hours.	Sc. Div.	Sc. Div.	Sc. Div.
00	49·5	51·7	47·6	12	51·2	49·8	49·4
01	50·3	50·7	47·9	13	51·4	50·5	49·2
02	50·8	51·1	48·4	14	51·4	50·4	49·2
03	51·0	51·3	49·2	15	51·8	50·5	49·2
04	50·3	52·0	50·3	16	51·9	50·8	48·9
05	49·9	52·2	50·2	17	51·9	51·1	48·9
06	49·9	51·4	50·4	18	52·5	51·6	48·1
07	50·1	50·7	50·3	19	52·9	52·4	48·6
08	50·2	49·5	50·5	20	51·0	53·7	50·4
09	50·1	48·9	50·7	21	48·7	53·9	51·3
10	50·2	49·3	49·9	22	47·7	53·3	50·5
11	50·1	48·9	49·9	23	48·3	52·6	48·5

Coefficients (A), Approximate Absolute Values (B).

(A) Declin. $a = 0'·751$

H. F. $k = ·00018$, $q = ·00028$

V. F. $k = ·00018$, $q = ·00005$

(B) Approx. $\psi = 29° 05'$, $X = 4·46$, $Y = 6·00$, $\theta = -53° 14'$, $\phi = 7·50$

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
6 10 02	39·3	39·9	62·4	61·8	62·8	−·0012	+·0041	− 8·2	+ 8·7	+·0022
11 02	32·2	28·1	62·4	71·0	62·6	−·0033	+·0039	−13·6	+11·9	+·0013
17	28·0	22·0		75·1		−·0044	+·0046	−16·8	+14·8	+·0014
22	25·6	23·8		77·8		−·0041	+·0052	−18·7	+15·3	+·0019
27	22·0	26·0		75·3		−·0037	+·0047	−21·5	+13·8	+·0017
32	21·3	26·6		76·1		−·0036	+·0049	−22·1	+14·0	+·0019
37	22·3	25·0		74·6		−·0039	+·0046	−21·3	+14·0	+·0016

1843.
Cape of Good Hope.

May 6.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
						$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
6 11 42	24·3	25·0		73·1		−·0039	+·0043	−19·9	+13·5	+·0014
47	25·4	24·0		72·0		−·0041	+·0042	−19·2	+13·7	+·0012
52	25·9	23·3		71·6		−·0042	+·0041	−18·9	+13·7	+·0011
57	25·9	22·8		70·9		−·0043	+·0040	−18·9	+13·7	+·0010
12 02	26·4	21·9	62·7	70·6	63·0	−·0045	+·0039	−18·6	+13·8	+·0009
07	26·0	22·7		70·3		−·0044	+·0039	−18·9	+13·7	+·0009
12	26·4	24·6		69·3		−·0040	+·0037	−18·6	+12·7	+·0009
17	26·2	27·3		67·5		−·0035	+·0034	−18·9	+11·4	+·0009
22	27·3	27·4		64·9		−·0035	+·0029	−18·0	+10·6	+·0006
27	29·2	28·0		62·8		−·0034	+·0025	−16·7	+ 9·7	+·0004
32	30·4	28·5		60·6		−·0033	+·0021	−15·7	+ 8·9	+·0002
37	32·0	29·2		58·5		−·0032	+·0018	−14·5	+ 8·2	·0000
42	33·8	30·6		56·2		−·0029	+·0014	−13·1	+ 7·1	−·0001
47	35·7	30·5		54·6		−·0030	+·0011	−11·8	+ 6·8	−·0004
52	36·5	29·7		53·9		−·0031	+·0010	−11·2	+ 6·8	−·0005
57	37·0	28·5		54·0		−·0033	+·0010	−10·8	+ 7·1	−·0005
13 02	37·2	28·0	63·0	54·0	63·2	−·0034	+·0010	−10·7	+ 7·3	−·0006
07	37·5	28·2		54·0		−·0034	+·0010	−10·4	+ 7·3	−·0006
12	37·5	27·4		54·8		−·0036	+·0011	−10·4	+ 7·7	−·0006
17	37·0	27·0		55·5		−·0036	+·0012	−10·8	+ 7·9	−·0005
22	36·7	27·0		55·8		−·0036	+·0013	−11·0	+ 8·1	−·0005
27	36·6	26·8		55·4		−·0036	+·0012	−11·1	+ 7·9	−·0005
32	37·0	26·7		55·4		−·0037	+·0012	−10·8	+ 8·1	−·0006
37	37·4	27·4		54·9		−·0035	+·0011	−10·5	+ 7·6	−·0005
42	37·5	27·5		54·9		−·0035	+·0011	−10·4	+ 7·6	−·0005
47	37·6	26·6		55·1		−·0036	+·0012	−10·4	+ 7·9	−·0005
52	37·8	27·0		54·7		−·0036	+·0011	−10·2	+ 7·7	−·0006
57	38·5	27·3		54·5		−·0035	+·0011	− 9·7	+ 7·6	−·0005
14 02	38·0	27·2	63·1	54·4	63·3	−·0035	+·0010	−10·1	+ 7·4	−·0006
07	38·0	28·1		54·2		−·0034	+·0010	−10·1	+ 7·3	−·0006
12	38·2	28·6		53·9		−·0033	+·0010	−10·0	+ 7·1	−·0005
17	38·5	28·7		53·6		−·0033	+·0009	− 9·8	+ 6·9	−·0006
22	38·9	28·5		53·4		−·0033	+·0009	− 9·5	+ 6·9	−·0006
27	38·9	27·7		54·1		−·0035	+·0010	− 9·5	+ 7·4	−·0006
32	38·8	27·0		53·9		−·0036	+·0010	− 9·6	+ 7·6	−·0006
37	38·6	24·9		55·2		−·0040	+·0012	− 9·8	+ 8·6	−·0007
42	39·3	25·8		54·0		−·0038	+·0010	− 9·3	+ 7·9	−·0007
47	40·1	25·8		54·0		−·0038	+·0010	− 8·7	+ 7·9	−·0007
52	40·4	25·9		54·0		−·0038	+·0010	− 8·5	+ 7·9	−·0007
57	40·7	26·3		54·0		−·0037	+·0010	− 8·3	+ 7·7	−·0007
15 02	40·7	27·4	63·0	53·4	63·2	−·0036	+·0009	− 8·3	+ 7·4	−·0007
07	40·8	28·3		53·2		−·0034	+·0008	− 8·3	+ 6·9	−·0007
12	40·7	27·4		53·2		−·0036	+·0009	− 8·3	+ 7·4	−·0007
17	40·8	27·3		53·3		−·0036	+·0009	− 8·3	+ 7·4	−·0007
22	40·7	27·8		53·3		−·0035	+·0009	− 8·3	+ 7·3	−·0007
27	41·0	28·3		52·4		−·0034	+·0007	− 8·1	+ 6·8	−·0008
32	41·9	28·8		51·7		−·0033	+·0006	− 7·4	+ 6·4	−·0008
37	42·6	29·7		51·0		−·0032	+·0005	− 7·0	+ 6·1	−·0008
42	43·0	30·3		50·2		−·0030	+·0003	− 6·7	+ 5·4	−·0009
47	44·0	31·1		49·5		−·0029	+·0002	− 5·9	+ 5·1	−·0009
52	44·3	32·0		49·2		−·0027	+·0002	− 5·7	+ 4·8	−·0008
57	44·1	32·7		49·2		−·0026	+·0002	− 5·9	+ 4·6	−·0008
16 02	43·9	33·1	63·1	48·8	63·2	−·0025	+·0001	− 6·0	+ 4·3	−·0008
07	44·0	33·6		48·8		−·0025	+·0001	− 5·9	+ 4·3	−·0008
12	44·0	33·9		48·2		−·0024	·0000	− 5·9	+ 4·0	−·0009
17	44·6	34·7		47·5		−·0023	−·0001	− 5·5	+ 3·6	−·0009
22	45·5	36·3		46·8		−·0020	−·0003	− 4·8	+ 2·8	−·0009
27	48·0	39·9		42·9		−·0013	−·0010	− 2·9	+ 0·5	−·0011
32	50·7	39·9		41·2		−·0014	−·0013	− 0·9	+ 0·2	−·0013
37	50·2	40·4		41·5		−·0013	−·0012	− 1·3	+ 0·2	−·0012
42	49·4	41·0		41·6		−·0012	−·0012	− 1·9	0·0	−·0012
47	50·8	40·3		40·9		−·0013	−·0013	− 0·8	0·0	−·0013

1843.
Cape of Good Hope.

May 6.

OBSERVATIONS OF THE MAGNETOMETERS. The Declination was observed 2m. before, and the V. F. 1m. after the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
6 16 52	52·0	39·8		40·9		−·0014	−·0013	− 0·1	+ 0·2	−·0013
57	53·0	38·4		41·6		−·0016	−·0012	− 0·8	+ 0·7	−·0013
17 02	52·9	38·2	63·1	43·1	63·2	−·0017	−·0009	+ 0·8	+ 1·3	−·0012
07	51·8	37·3		46·1		−·0018	−·0004	− 0·2	+ 2·3	−·0009
12	51·0	36·8		47·6		−·0020	−·0001	− 0·8	+ 3·1	−·0008
17	49·1	35·4		47·8		−·0022	−·0001	− 2·3	+ 3·5	−·0008
22	48·7	36·5		47·0		−·0021	−·0002	− 2·6	+ 3·1	−·0009
27	50·8	38·8		44·3		−·0016	−·0007	− 1·1	+ 1·5	−·0010
32	51·2	39·5		43·3		−·0016	−·0008	− 0·8	+ 1·3	−·0011
37	52·9	39·9		42·6		−·0015	−·0009	+ 0·5	+ 1·0	−·0011
42	54·0	40·5		41·4		−·0014	−·0012	+ 1·3	+ 0·3	−·0013
47	55·5	40·9		40·6		−·0013	−·0013	+ 2·3	0·0	−·0013
52	57·0	41·5		39·1		−·0012	−·0015	+ 3·5	− 0·5	−·0014
57	59·6	39·9		39·3		−·0016	−·0015	+ 5·3	+ 0·2	−·0015
18 02	58·2	40·0	62·8	39·6	63·0	−·0015	−·0014	+ 4·3	+ 0·2	−·0014
07	59·2	39·9		39·6		−·0016	−·0014	+ 5·0	+ 0·3	−·0015
12	59·3	39·1		39·8		−·0017	−·0014	+ 5·0	+ 0·5	−·0015
17	59·0	38·8		42·1		−·0018	−·0010	+ 4·8	+ 1·3	−·0013
22	56·8	37·0		43·0		−·0021	−·0009	+ 3·2	+ 2·0	−·0013
27	56·3	37·0		44·1		−·0021	−·0007	+ 2·7	+ 2·3	−·0012
32	54·7	35·4		46·5		−·0024	−·0002	+ 1·5	+ 3·6	−·0010
37	54·0	34·7		46·5		−·0026	−·0002	+ 1·0	+ 4·0	−·0011
42	55·9	36·1		45·9		−·0023	−·0003	+ 2·3	+ 3·3	−·0010
47	55·5	34·9		45·3		−·0026	−·0005	+ 2·0	+ 3·5	−·0012
52	54·4	35·0		46·3		−·0026	−·0003	+ 1·2	+ 3·8	−·0011
57	54·5	35·3		47·4		−·0025	−·0001	+ 1·2	+ 4·0	−·0010
19 02	52·7	33·3	62·7	50·5	63·0	−·0029	+·0005	− 0·2	+ 5·6	−·0007
07	51·1	34·3		51·5		−·0027	+·0006	− 1·2	+ 5·4	−·0006
12	49·5	34·0		52·6		−·0028	+·0008	− 2·3	+ 5·9	−·0005
17	48·0	34·2		53·6		−·0028	+·0009	− 3·3	+ 6·1	−·0004
22	48·0	34·6		54·1		−·0028	+·0010	− 3·2	+ 6·3	−·0004
27	46·7	35·1		54·9		−·0027	+·0011	− 4·1	+ 6·3	−·0003
32	45·9	35·2		54·7		−·0027	+·0010	− 4·6	+ 6·1	−·0003
37	46·2	34·9		55·0		−·0028	+·0010	− 4·2	+ 6·3	−·0004
42	46·0	34·9		55·0		−·0028	+·0010	− 4·2	+ 6·3	−·0004
47	45·5	35·3		54·9		−·0028	+·0010	− 4·5	+ 6·3	−·0004
52	45·5	35·4		55·1		−·0028	+·0010	− 4·4	+ 6·3	−·0004
57	44·8	36·0		55·2		−·0027	+·0010	− 4·8	+ 6·1	−·0003
20 02	44·8	36·3	62·6	54·8	62·7	−·0026	+·0009	− 4·7	+ 5·8	−·0004
07	44·2	37·0		54·7		−·0025	+·0009	− 5·0	+ 5·6	−·0003
12	44·0	37·0		54·3		−·0025	+·0008	− 5·0	+ 5·4	−·0004
17	44·2	37·0		53·9		−·0025	+·0007	− 4·7	+ 5·3	−·0004
22	44·1	36·9		53·9		−·0025	+·0007	− 4·6	+ 5·3	−·0004
27	44·3	37·0		53·1		−·0025	+·0005	− 4·3	+ 4·9	−·0006
32	44·2	37·3		52·7		−·0025	+·0004	− 4·2	+ 4·8	−·0006
37	44·2	37·2		52·6		−·0025	+·0004	− 4·1	+ 4·8	−·0006
42	45·2	37·0		52·7		−·0025	+·0004	− 3·2	+ 4·8	−·0006
47	44·0	37·3		52·9		−·0025	+·0004	− 4·0	+ 4·8	−·0006
52	42·9	37·4		53·1		−·0025	+·0004	− 4·7	+ 4·8	−·0006
57	43·0	37·4		53·3		−·0025	+·0005	− 4·4	+ 4·9	−·0006
21 02	42·8	37·8	62·5	53·1	62·6	−·0024	+·0004	− 4·4	+ 4·6	−·0006
07	42·3	38·1		53·3		−·0023	+·0005	− 4·7	+ 4·6	−·0005
12	42·0	38·1		53·4		−·0023	+·0005	− 4·9	+ 4·6	−·0005
17	41·8	37·8		53·5		−·0024	+·0005	− 5·0	+ 4·8	−·0005
22	41·2	37·1		53·6		−·0025	+·0006	− 5·4	+ 5·1	−·0005
27	41·3	36·0		54·5		−·0027	+·0007	− 5·3	+ 5·6	−·0005
32	40·7	34·3		55·7		−·0030	+·0010	− 5·6	+ 6·6	−·0004
37	40·2	33·4		56·7		−·0032	+·0011	− 5·9	+ 7·1	−·0004
42	39·5	33·8		56·7		−·0031	+·0011	− 6·4	+ 6·9	−·0004
47	39·4	33·2		56·2		−·0032	+·0011	− 6·5	+ 7·1	−·0004
52	39·6	32·6		56·4		−·0033	+·0011	− 6·2	+ 7·3	−·0005
57	39·0	32·1		56·6		−·0034	+·0012	− 6·6	+ 7·6	−·0004

1843.
Cape of Good Hope.
May 6—7.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
6 22 02	38·9	32·0	62·4	56·4	62·5	−·0034	+·0010	− 6·6	+ 7·4	−·0005
07	38·7	32·2		56·3		−·0033	+·0012	− 6·8	+ 7·4	−·0004
12	38·3	32·8		56·1		−·0032	+·0011	− 7·1	+ 7·1	−·0004
17	38·4	33·7		55·3		−·0031	+·0010	− 7·1	+ 6·8	−·0005
57	39·3	32·0		53·6		−·0033	+·0010	− 6·8	+ 7·1	−·0005
23 02	39·0	32·6	62·3	53·1	62·5	−·0032	+·0009	− 7·0	+ 6·8	−·0006
07	39·3	34·1		52·9		−·0029	+·0009	− 6·8	+ 6·3	−·0005
7 00 02	41·9	35·0	62·3	48·6	62·6	−·0026	+·0003	− 5·7	+ 4·8	−·0007
07	42·1	35·8		48·3		−·0024	+·0002	− 5·6	+ 4·3	−·0007
57	43·0	34·0		49·3		−·0026	+·0003	− 5·4	+ 4·8	−·0007
01 02	42·8	33·8	62·3	49·8	62·6	−·0026	+·0004	− 5·6	+ 4·9	−·0007
07 (a)	42·8	33·7		50·1		−·0027	+·0005	− 5·6	+ 5·3	−·0006

1843.
Toronto.
May 6.

TORONTO, 1843. MAY 6.

MEAN MONTHLY READINGS OF THE MAGNETOMETERS.

Mean Göttingen Time.	Declination.	H. F. at 57°·4.	V. F. at 57°·3.	Mean Göttingen Time.	Declination.	H. F. at 57°·4.	V. F. at 57°·3.
Hours.	Sc. Div.	Sc. Div.	Sc. Div.	Hours.	Sc. Div.	Sc. Div.	Sc. Div.
00	131·4	300·9	116·6	12	125·9	318·1	117·9
01	132·8	301·3	116·3	13	125·5	309·8	116·5
02	133·4	299·7	115·8	14	126·0	305·8	115·8
03	131·3	296·8	115·0	15	126·7	305·3	115·4
04	126·9	296·3	114·1	16	127·4	303·9	115·1
05	122·7	299·3	113·7	17	127·6	303·5	115·1
06	119·3	302·6	113·5	18	126·9	302·7	113·8
07	118·3	307·8	114·0	19	126·5	302·9	114·1
08	118·3	311·5	114·9	20	126·7	302·7	114·3
09	119·5	313·1	115·4	21	126·9	302·6	115·3
10	121·6	316·6	116·3	22	127·3	302·6	115·9
11	124·2	320·0	117·6	23	129·4	301·8	116·2

Coefficients (A), Approximate Absolute Values (B.)

(A) Declin. $a = 0'·721$

H. F. $k = ·000099$, $q = ·00027$

V. F. $k = ·000094$, $q = ·00007$

(B) Approx. $\psi = 1°24'$, X = 3·54, Y = 13·44, $\theta = 75°16'$, $\phi = 13·90$

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
6 10 02	112·6	369·4	56·2	140·9	55·0	+·0049	+·0022	− 6·5	− 2·3	+·0024
12	101·7	—		—		—	—	−14·6	—	—
17	110·9	350·8		147·4		+·0030	+·0028	− 8·1	− 0·2	+·0028
22	105·5	377·0		147·3		+·0056	+·0027	−12·2	− 2·4	+·0029
27	107·2	374·3		147·3		+·0053	+·0027	−11·2	− 2·2	+·0029
32	109·8	388·4		147·3		+·0067	+·0027	− 9·5	− 3·4	+·0030
37	105·0	395·9		157·4		+·0074	+·0037	−13·1	− 3·1	+·0039
42	118·2	396·1		166·9		+·0074	+·0045	− 3·7	− 2·4	+·0047
47	115·2	418·8		164·2		+·0096	+·0043	− 6·0	− 4·5	+·0046
52	122·9	411·5		168·7		+·0089	+·0047	− 0·6	− 3·6	+·0050
57	115·1	455·0		167·7		+·0131	+·0046	− 6·4	− 7·2	+·0051
11 02	124·4	461·8	56·5	164·1	55·4	+·0138	+·0042	+ 0·1	− 8·1	+·0048
07	121·0	482·5		157·2		+·0159	+·0036	− 2·4	−10·4	+·0044
12	122·1	479·6		172·7		+·0156	+·0051	− 1·7	− 8·9	+·0058
17	124·7	489·0		163·5		+·0166	+·0042	+ 0·1	−10·5	+·0050

(a) Sunday commenced at the Cape of Good Hope at 6d. 11h. 26m. Göttingen.

1843. Toronto. May 6.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
						$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
6 11 22	134·3	466·8		164·4		+·0144	+·0043	+ 6·9	− 8·5	+·0050
27	144·0	—		—		—	—	+13·8	—	—
32	128·0	—		—		—	—	+ 2·2	—	—
37	139·2	—		—		—	—	+10·1	—	—
42	136·7	—		—		—	—	+ 8·2	—	—
47	149·9	772·4		199·5		+·0448	+·0076	+17·6	−31·5	+·0100
52	138·5	687·0		192·5		+·0363	+·0069	+ 9·3	−24·9	+·0088
57	123·0	595·2		174·7		+·0273	+·0053	− 2·0	−18·6	+·0067
12 02	124·9	588·4	56·9	168·3	56·1	+·0266	+·0047	− 0·7	−18·5	+·0061
07	120·1	489·5		169·3		+·0169	+·0048	− 4·2	−10·2	+·0056
12	134·4	427·5		172·0		+·0108	+·0050	+ 6·2	− 4·9	+·0054
17	140·8	403·6		171·6		+·0086	+·0050	+10·8	− 3·1	+·0052
22	130·9	388·4		166·2		+·0071	+·0045	+ 3·7	− 2·2	+·0047
27	120·8	366·8		175·5		+·0051	+·0054	− 3·5	+ 0·2	+·0054
32	131·6	332·3		163·8		+·0017	+·0043	+ 4·2	+ 2·2	+·0041
37	123·5	306·0		158·7		−·0008	+·0038	− 1·5	+ 3·9	+·0035
42	113·7	295·4		156·5		−·0018	+·0037	− 8·5	+ 4·6	+·0033
47	108·3	280·8		153·9		−·0032	+·0034	−12·4	+ 5·6	+·0030
52	112·8	274·7		150·8		−·0037	+·0031	− 9·3	+ 5·8	+·0027
57	109·4	270·6		148·8		−·0040	+·0030	−11·6	+ 5·9	+·0026
13 02	110·3	279·1	57·2	143·1	56·4	−·0031	+·0024	−10·9	+ 4·6	+·0020
07	114·5	274·3		140·6		−·0035	+·0022	− 7·9	+ 4·8	+·0018
12	113·7	260·7		137·4		−·0049	+·0019	− 8·5	+ 5·8	+·0015
17	111·4	258·5		134·5		−·0050	+·0017	−10·2	+ 5·7	+·0013
22	108·1	255·3		132·8		−·0053	+·0015	−12·6	+ 5·8	+·0011
27	108·4	251·5		132·5		−·0057	+·0015	−12·4	+ 6·1	+·0010
32	110·1	250·3		132·0		−·0058	+·0014	−11·2	+ 6·1	+·0009
37	111·0	251·0		129·9		−·0057	+·0012	−10·7	+ 5·8	+·0008
42	112·2	250·7		128·4		−·0057	+·0011	− 9·8	+ 5·8	+·0007
47	112·7	251·3		127·6		−·0056	+·0010	− 9·5	+ 5·6	+·0006
52	111·8	252·7		127·8		−·0054	+·0011	−10·2	+ 5·5	+·0007
57	113·8	252·4		127·8		−·0054	+·0011	− 8·8	+ 5·5	+·0007
14 02	114·0	250·9	57·1	126·9	56·4	−·0055	+·0010	− 8·7	+ 5·5	+·0006
07	115·8	252·2		125·9		−·0054	+·0009	− 7·4	+ 5·3	+·0005
12	116·1	253·8		125·6		−·0052	+·0009	− 7·2	+ 5·1	+·0005
17	116·9	255·6		125·6		−·0051	+·0009	− 6·7	+ 5·1	+·0005
22	116·0	254·8		124·1		−·0051	+·0007	− 7·3	+ 4·9	+·0003
27	115·9	254·6		123·5		−·0051	+·0007	− 7·5	+ 4·9	+·0003
32	115·1	254·9		123·5		−·0051	+·0007	− 8·0	+ 4·9	+·0003
37	116·0	255·3		122·4		−·0051	+·0006	− 7·5	+ 4·8	+·0002
42	114·3	245·1		123·4		−·0061	+·0007	− 8·8	+ 5·8	+·0003
47	118·0	247·9		122·2		−·0058	+·0006	− 6·2	+ 5·4	+·0002
52	119·0	245·1		120·6		−·0061	+·0005	− 5·4	+ 5·6	+·0001
57	120·7	247·0		119·7		−·0059	+·0004	− 4·2	+ 5·3	·0000
15 02	122·1	251·9	57·0	120·4	57·2	−·0054	+·0005	− 3·3	+ 5·0	+·0001
07	123·2	256·3		120·2		−·0050	+·0005	− 2·6	+ 4·6	+·0001
12	123·7	261·1		122·4		−·0045	+·0007	− 2·3	+ 4·4	+·0004
17	123·3	257·5		120·6		−·0048	+·0005	− 2·6	+ 4·5	+·0002
22	124·3	252·8		122·1		−·0053	+·0006	− 1·8	+ 5·0	+·0002
27	126·3	256·5		122·1		−·0049	+·0006	− 0·5	+ 4·6	+·0002
32	126·3	258·0		122·8		−·0048	+·0007	− 0·5	+ 4·6	+·0003
37	127·6	255·2		122·7		−·0051	+·0007	+ 0·4	+ 4·9	+·0003
42	130·9	259·3		126·5		−·0046	+·0010	+ 2·7	+ 4·7	+·0006
47	132·8	254·3		122·8		−·0051	+·0007	+ 4·0	+ 4·9	+·0003
52	143·2	252·9		126·4		−·0053	+·0010	+11·4	+ 5·3	+·0006
57	138·2	247·1		128·0		−·0058	+·0012	+ 7·8	+ 5·9	+·0008
16 02	142·0	248·0	56·6	123·6	56·9	−·0058	+·0008	+10·5	+ 5·6	+·0004
07	140·3	250·2		120·9		−·0055	+·0005	+ 9·3	+ 5·1	+·0001
12	130·7	244·6		120·4		−·0061	+·0005	+ 2·4	+ 5·6	+·0001
17	126·0	235·1		120·5		−·0070	+·0005	− 1·0	+ 6·3	·0000
22	128·9	243·7		116·8		−·0062	+·0001	+ 1·0	+ 5·3	−·0003
27	123·7	236·0		108·4		−·0069	−·0006	− 2·8	+ 5·3	−·0010

1843.
Toronto.
May 6.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
6 16 32	124·7	225·7		120·6		−·0079	+·0005	− 2·0	+ 7·1	·0000
37	141·0	262·5		126·3		−·0043	+·0010	+ 9·8	+ 4·5	+·0007
42	135·8	289·2		128·4		−·0016	+·0012	+ 6·0	+ 2·4	+·0010
47	146·9	317·5		130·7		+·0012	+·0015	+14·0	+ 0·2	+·0015
52	135·2	312·3		126·2		+·0006	+·0010	+ 5·4	+ 0·3	+·0010
57	130·2	256·0		118·3		−·0049	+·0003	+ 1·8	+ 4·4	·0000
17 02	148·3	290·8	56·6	131·5	57·3	−·0015	+·0015	+14·9	+ 2·5	+·0013
07	144·3	294·8		117·2		−·0011	+·0002	+12·1	+ 1·1	+·0001
12	127·7	275·8		114·1		−·0030	−·0001	+ 0·1	+ 2·4	−·0003
17	132·1	240·1		109·5		−·0065	−·0005	+ 3·4	+ 5·1	−·0009
22	140·3	251·0		97·1		−·0054	−·0017	+ 9·3	+ 3·1	−·0019
27	122·8	200·1		64·9		−·0104	−·0047	− 3·3	+ 4·8	−·0051
32	111·6	174·3		71·3		−·0130	−·0041	−11·3	+ 7·5	−·0047
37	118·8	141·3		51·3		−·0163	−·0059	− 6·1	+ 8·8	−·0066
42	109·6	86·1		39·9		−·0217	−·0070	−12·6	+12·4	−·0079
47	102·0	84·7		43·0		−·0218	−·0067	−18·1	+12·8	−·0077
52	100·6	40·0		37·4		−·0263	−·0072	−19·0	+16·1	−·0084
57	72·4	24·4		55·8		−·0278	−·0055	−39·3	+18·8	−·0069
18 02	105·4	72·9	56·5	61·2	57·4	−·0230	−·0049	−15·5	+15·3	−·0061
07	116·6	64·8		63·7		−·0238	−·0047	− 7·4	+16·1	−·0059
12	129·3	63·6		58·4		−·0239	−·0052	+ 1·8	+15·8	−·0064
17	115·9	49·6		50·3		−·0253	−·0060	− 7·8	+16·3	−·0072
22	119·9	124·5		52·5		−·0179	−·0058	− 4·9	+10·2	−·0066
27	91·0	69·4		9·1		−·0234	−·0099	−25·7	+11·4	−·0108
32	43·7	3·3		7·9		−·0300	−·0100	−59·8	+16·9	−·0113
37	24·6	32·5		38·8		−·0271	−·0071	−73·6	+16·9	−·0084
42	45·4	—		—		—	—	−58·5	—	—
47	52·2	99·0		52·6		−·0205	−·0058	−53·7	+12·4	−·0067
52	71·7	75·0		25·8		−·0229	−·0083	−39·5	+12·3	−·0092
57	70·3	43·6		46·9		−·0260	−·0064	−40·5	+16·6	−·0076
19 02	104·8	174·7	56·0	97·7	56·8	−·0131	−·0016	−15·6	+ 9·7	−·0023
07	138·5	223·9		97·3		−·0082	−·0016	+ 8·7	+ 5·6	−·0020
12	137·9	221·5		97·2		−·0084	−·0016	+ 8·2	+ 5·8	−·0020
17	144·6	232·7		99·1		−·0073	−·0015	+13·1	+ 4·9	−·0019

(a)

1843.
St. Helena.
May 15.
For Mean Monthly Readings, *see* page 215.

ST. HELENA, 1843. MAY 15.

15 07 02	13·9	63·1	66·1	39·0	66·0	+·0012	·0000	+ 0·2	− 1·4	+·0010
08 02	13·0	53·8	66·0	38·0	65·7	−·0004	−·0009	− 0·6	− 0·6	−·0005
07	12·8	53·4		38·0		−·0005	−·0009	− 0·7	− 0·5	−·0006
12	12·8	53·2		38·1		−·0005	−·0009	− 0·7	− 0·5	−·0006
17	12·8	53·0		38·1		−·0006	−·0009	− 0·7	− 0·2	−·0006
22	12·8	53·0		38·1		−·0005	−·0008	− 0·7	− 0·2	−·0005
27	12·8	51·0		38·3		−·0009	−·0006	− 0·7	+ 0·2	−·0009
32	12·7	50·0		38·3		−·0011	−·0006	− 0·8	+ 0·6	−·0010
37	12·4	49·3		38·2		−·0013	−·0007	− 1·1	+ 0·7	−·0012
42	12·2	48·9		38·2		−·0013	−·0007	− 1·2	+ 0·7	−·0012
47	12·0	48·6		38·1		−·0014	−·0008	− 1·3	+ 0·7	−·0013
52	11·8	48·0		38·1		−·0015	−·0007	− 1·5	+ 0·9	−·0014
57	11·7	47·2		38·1		−·0017	−·0007	− 1·5	+ 1·2	−·0016
09 02	11·8	46·9	65·6	38·0	65·6	−·0017	−·0008	− 1·5	+ 0·9	−·0016
07	11·6	—		—		—	—	− 1·6	—	—
12	11·8	46·4		37·1		−·0018	−·0015	− 1·5	+ 0·2	−·0018
17	12·1	46·7		37·1		−·0017	−·0015	− 1·3	+ 0·2	−·0017
22	12·6	47·4		37·2		−·0016	−·0015	− 1·0	+ 0·1	−·0016
27	12·8	47·9		37·3		−·0015	−·0014	− 0·8	+ 0·1	−·0015
32	13·0	48·2		37·3		−·0014	−·0014	− 0·7	0·0	−·0014
37	13·0	49·0		37·2		−·0013	−·0014	− 0·7	− 0·1	−·0013
42	13·0	50·0		37·1		−·0011	−·0015	− 0·7	− 0·5	−·0012
47	13·0	50·0		37·1		−·0011	−·0015	− 0·7	− 0·5	−·0012
52	13·0	50·8		37·1		−·0009	−·0015	− 0·8	− 0·7	−·0010
57	13·0	50·9		37·1		−·0009	−·0015	− 0·8	− 0·7	−·0010
10 02	13·0	50·9	65·5	37·1	65·5	−·0009	−·0015	− 0·8	− 0·7	−·0010

(a) Sunday commenced at Toronto at 6d. 18h. Göttingen.

1843.
Toronto.

May 26.

For Mean Monthly Readings, *see* page 219.

TORONTO, 1843. MAY 26—27.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours. $\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
26 10 02	118·9	329·5	59·8	117·4	59·4	+·0019	+·0003	− 1·9	− 1·4	+·0004
07	115·3	342·9		120·7		+·0022	+·0006	− 4·7	− 1·4	+·0007
12	113·8	355·6		121·3		+·0045	+·0006	− 5·9	− 3·3	+·0009
17	115·0	350·3		119·8		+·0039	+·0005	− 5·1	− 2·9	+·0007
22	112·5	339·3		118·9		+·0028	+·0004	− 7·2	− 2·0	+·0006
27	111·9	329·7		118·5		+·0018	+·0003	− 7·8	− 1·3	+·0004
32	113·0	320·2		118·0		+·0018	+·0003	− 7·1	− 1·3	+·0004
37	115·6	311·4		117·1		−·0001	+·0002	− 5·4	+ 0·2	+·0002
42	118·5	305·5		116·6		−·0007	+·0001	− 3·5	+ 0·7	+·0001
47	120·3	307·3		115·9		−·0005	·0000	− 2·3	+ 0·4	·0000
52	121·8	305·8		114·9		−·0007	−·0001	− 1·4	+ 0·5	−·0001
57	122·1	306·6		114·9		−·0007	−·0001	− 1·3	+ 0·5	−·0001
11 02	122·9	314·7	59·7	115·9	59·7	+·0001	·0000	− 0·9	− 0·1	·0000
07	123·1	320·6		116·2		+·0007	·0000	− 0·8	− 0·6	·0000
12	124·0	326·6		116·2		+·0013	·0000	− 0·4	− 1·1	+·0001
17	125·0	331·9		117·1		+·0018	+·0001	+ 0·3	− 1·4	+·0002
22	126·0	336·8		117·3		+·0023	+·0001	+ 0·8	− 1·9	+·0002
27	126·8	340·3		117·1		+·0027	+·0001	+ 1·3	− 2·2	+·0003
32	127·1	339·1		117·3		+·0026	+·0001	+ 1·5	− 2·1	+·0003
37	127·0	339·6		117·3		+·0026	+·0001	+ 1·3	− 2·1	+·0003
42	126·2	339·8		117·3		+·0027	+·0001	+ 0·6	− 2·2	+·0003
47	125·9	336·3		117·0		+·0023	+·0001	+ 0·3	− 1·9	+·0002
52	125·1	337·2		116·9		+·0024	+·0001	− 0·4	− 1·9	+·0003
57	124·7	336·9		116·9		+·0024	+·0001	− 0·8	− 1·9	+·0003
12 02	123·9	335·0	59·3	116·9	59·5	+·0022	+·0001	− 1·4	− 1·8	+·0002
07	123·8	331·8		116·7		+·0019	+·0001	− 1·5	− 1·5	+·0002
12	124·2	330·8		116·3		+·0019	·0000	− 1·1	− 1·6	+·0001
17	124·0	336·9		117·2		+·0026	·0000	− 1·3	− 2·2	+·0002
22	123·8	337·8		117·2		+·0027	+·0001	− 1·4	− 2·2	+·0003
27	124·9	334·7		117·1		+·0025	+·0001	− 0·6	− 2·0	+·0003
32	124·9	332·1		116·8		+·0023	+·0001	− 0·6	− 1·9	+·0002
37	125·2	326·1		116·8		+·0017	+·0001	− 0·4	− 1·4	+·0002
42	125·2	326·2		117·2		+·0018	+·0002	− 0·3	− 1·4	+·0003
47	125·1	325·0		117·4		+·0017	+·0002	− 0·4	− 1·3	+·0003
52	124·3	323·3		117·4		+·0016	+·0002	− 0·9	− 1·2	+·0003
57	124·0	324·0		117·5		+·0018	+·0002	− 1·1	− 1·4	+·0003
13 02	124·0	323·5	59·0	118·1	59·1	+·0018	+·0003	− 1·1	− 1·3	+·0004
07	123·1	322·8		118·1		+·0018	+·0003	− 1·7	− 1·3	+·0004
12	121·6	322·9		118·9		+·0018	+·0004	− 2·9	− 1·2	+·0005
17	120·8	321·0		118·9		+·0017	+·0004	− 3·5	− 1·1	+·0005
22	120·0	319·8		119·2		+·0016	+·0004	− 4·1	− 1·0	+·0005
27	120·2	318·1		119·5		+·0014	+·0005	− 4·0	− 0·8	+·0006
32	121·0	316·3		119·4		+·0013	+·0005	− 3·4	− 0·7	+·0005
37	122·0	316·8		119·3		+·0014	+·0005	− 2·8	− 0·8	+·0006
42	123·4	319·7		119·3		+·0017	+·0005	− 1·7	− 1·0	+·0006
47	123·9	320·4		118·7		+·0018	+·0004	− 1·4	− 1·2	+·0005
52	123·6	320·0		118·6		+·0018	+·0004	− 1·6	− 1·2	+·0005
57	123·9	320·0		118·4		+·0019	+·0004	− 1·5	− 1·3	+·0005
14 02	124·2	321·0	59·2	118·2	59·5	+·0020	+·0004	− 1·3	− 1·4	+·0005
07	125·1	322·8		117·6		+·0022	+·0003	− 0·7	− 1·6	+·0004
12	125·9	323·5		117·2		+·0023	+·0003	− 0·1	− 1·7	+·0004
17	125·5	323·6		116·5		+·0023	+·0002	− 0·5	− 1·8	+·0003
22	125·3	326·5		116·2		+·0026	+·0002	− 0·6	− 2·0	+·0004
27	124·9	325·4		116·0		+·0025	+·0002	− 1·0	− 1·9	+·0004
32	124·6	324·3		116·0		+·0024	+·0002	− 1·2	− 1·9	+·0003
37	125·3	324·8		115·7		+·0024	+·0002	− 0·8	− 1·9	+·0003
42	125·5	323·1		115·1		+·0023	+·0001	− 0·7	− 1·9	+·0002
47	124·9	323·0		115·2		+·0023	+·0002	− 1·1	− 1·8	+·0003
52	125·1	323·3		115·0		+·0023	+·0001	− 1·1	− 1·9	+·0002
57	123·9	322·5		115·0		+·0023	+·0002	− 1·9	− 1·8	+·0003

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OBSERVATIONS OF THE MAGNETOMETERS. The Declination was observed 2m. before, and the V. F. 1m. after the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
26 15 02	123·0	320·4	59·4	114·7	60·0	+·0020	+·0001	− 2·7	− 1·6	+·0002
07	123·2	319·8		114·7		+·0020	+·0001	− 2·6	− 1·6	+·0002
12	124·2	321·1		114·7		+·0021	+·0001	− 1·8	− 1·7	+·0002
17	125·2	322·9		114·3		+·0023	+·0001	− 1·2	− 1·9	+·0002
22	125·1	323·9		113·7		+·0024	+·0001	− 1·3	− 1·9	+·0003
27	124·5	325·0		113·7		+·0026	+·0001	− 1·8	− 2·1	+·0003
32	122·5	325·3		113·1		+·0026	·0000	− 3·3	− 2·2	+·0002
37	121·6	325·5		113·0		+·0027	·0000	− 4·0	− 2·3	+·0002
42	121·4	325·6		113·0		+·0027	·0000	− 4·2	− 2·3	+·0002
47	121·4	325·7		112·7		+·0027	·0000	− 4·2	− 2·3	+·0002
52	121·7	326·3		112·5		+·0028	·0000	− 4·0	− 2·4	+·0002
57	121·5	325·1		112·4		+·0027	·0000	− 4·2	− 2·3	+·0002
16 02	121·3	324·9	59·5	112·4	61·0	+·0027	·0000	− 4·4	− 2·3	+·0002
07	121·7	325·9		112·3		+·0028	·0000	− 4·1	− 2·4	+·0002
12	123·0	327·3		112·3		+·0029	·0000	− 3·2	− 2·4	+·0002
17	123·6	326·6		112·0		+·0028	·0000	− 2·8	− 2·4	+·0002
22	124·4	326·1		111·7		+·0028	−·0001	− 2·3	− 2·4	+·0001
27	124·6	325·5		111·7		+·0027	−·0001	− 2·0	− 2·4	+·0001
32	124·8	326·1		111·7		+·0028	−·0001	− 1·9	− 2·4	+·0001
37	125·0	326·4		111·1		+·0027	−·0001	− 1·8	− 2·4	+·0001
42	124·9	326·6		110·9		+·0029	−·0001	− 1·8	− 2·5	+·0001
47	124·5	327·2		110·7		+·0029	−·0001	− 2·2	− 2·5	+·0001
52	124·5	327·3		110·2		+·0029	−·0002	− 2·3	− 2·6	·0000
57	124·9	328·4		109·9		+·0031	−·0002	− 1·9	− 2·8	·0000
17 02	124·8	328·9	59·5	109·7	61·3	+·0031	−·0002	− 2·0	− 2·8	·0000
07	124·8	328·8		109·8		+·0031	−·0002	− 2·0	− 2·8	·0000
12	124·5	328·5		109·7		+·0031	−·0002	− 2·2	− 2·8	·0000
17	124·4	329·8		109·3		+·0032	−·0002	− 2·3	− 2·9	·0000
22	124·5	329·1		109·3		+ 0032	−·0002	− 2·2	− 2·9	·0000
27	124·7	328·8		109·3		+·0031	−·0002	− 2·0	− 2·8	·0000
32	124·8	329·9		109·8		+·0033	−·0001	− 1·8	− 2·9	+·0001
37	124·1	330·9		109·6		+·0034	−·0001	− 2·4	− 3·0	+·0001
42	124·0	330·9		109·6		+·0034	−·0001	− 2·5	− 3·0	+·0001
47	124·0	330·9		109·5		+·0033	−·0001	− 2·5	− 2·9	+·0001
52	124·0	330·8		109·5		+·0034	−·0001	− 2·4	− 3·0	+·0001
57	124·0	331·0		109·5		+·0034	−·0001	− 2·4	− 3·0	+·0001
18 02	124·0	330·0	59·7	110·0	62·0	+·0033	·0000	− 2·0	− 2·8	+·0002
07	124·0	330·0		109·9		+·0033	·0000	− 2·0	− 2·8	+·0002
12	124·0	330·1		109·9		+·0033	·0000	− 2·0	− 2·8	+·0002
17	124·0	330·4		110·4		+·0034	·0000	− 2·0	− 2·9	+·0002
22	124·0	330·0		110·4		+·0033	·0000	− 2·0	− 2·8	+·0002
27	124·0	329·1		110·4		+·0032	·0000	− 1·9	− 2·7	+·0002
32	124·3	328·2		110·1		+·0031	·0000	− 1·7	− 2·6	+·0002
37	125·0	329·4		110·0		+·0032	·0000	− 1·2	− 2·7	+·0002
42	125·0	329·8		110·0		+·0033	·0000	− 1·1	− 2·8	+·0002
47	124·7	330·5		110·0		+·0033	·0000	− 1·3	− 2·8	+·0002
52	125·0	329·0		110·0		+·0032	·0000	− 1·1	− 2·7	+·0002
57	124·6	328·0		110·0		+·0031	·0000	− 1·3	− 2·6	+·0002
19 02	125·3	329·0	59·5	110·0	62·5	+·0032	·0000	− 0·8	− 2·7	+·0002
07	125·0	330·0		110·0		+·0033	·0000	− 1·1	− 2·8	+·0002
12	125·0	330·0		110·0		+·0033	·0000	− 1·1	− 2·8	+·0002
17	125·1	329·5		110·0		+·0032	−·0001	− 1·0	− 2·8	+·0001
22	125·0	329·0		110·0		+·0032	−·0001	− 1·1	− 2·8	+·0001
27	125·8	328·6		110·0		+·0031	−·0001	− 0·6	− 2·7	+·0001
32	126·0	328·5		110·0		+·0031	−·0001	− 0·4	− 2·7	+·0001
37	126·0	329·0		110·0		+·0032	−·0001	− 0·4	− 2·8	+·0001
42	126·0	329·0		110·0		+·0032	−·0001	− 0·4	− 2·8	+·0001
47	126·0	329·0		110·0		+·0032	−·0001	− 0·4	− 2·8	+·0001
52	126·2	328·9		110·0		+·0032	−·0001	− 0·4	− 2·8	+·0001
57	126·6	329·0		110·0		+·0032	−·0001	− 0·1	− 2·8	+·0001
20 02	127·1	328·8	59·4	110·0	61·5	+·0031	−·0001	+ 0·3	− 2·7	+·0001
07	127·0	328·5		110·0		+·0031	−·0001	+ 0·2	− 2·7	+·0001

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OBSERVATIONS OF THE MAGNETOMETERS. The Declination was observed 2m. before, and the V. F. 1m. after the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
26 20 12	127·0	328·0		110·0		+·0030	−·0002	+ 0·2	− 2·7	·0000
17	127·2	328·1		110·0		+·0030	−·0002	+ 0·4	− 2·7	·0000
22	127·9	328·0		110·0		+·0030	−·0002	+ 0·8	− 2·7	·0000
27	127·6	328·0		110·3		+·0030	−·0002	+ 0·6	− 2·7	·0000
32	127·8	328·5		110·3		+·0030	−·0002	+ 0·7	− 2·7	·0000
37	127·8	328·0		110·3		+·0030	−·0002	+ 0·7	− 2·7	·0000
42	128·1	328·0		110·3		+·0030	−·0002	+ 0·9	− 2·7	·0000
47	128·2	330·0		110·8		+·0032	−·0002	+ 1·0	− 2·9	·0000
52	127·6	329·1		110·7		+·0031	−·0002	+ 0·5	− 2·8	·0000
57	128·0	328·5		110·7		+·0030	−·0002	+ 0·8	− 2·7	·0000
21 02	128·1	329·0	59·0	110·7	60·0	+·0030	−·0003	+ 0·8	− 2·8	−·0001
07	128·3	329·0		110·7		+·0031	−·0003	+ 1·0	− 2·9	−·0001
12	129·0	328·7		110·7		+·0030	−·0003	+ 1·4	− 2·8	−·0001
17	129·2	329·0		111·0		+·0031	−·0002	+ 1·5	− 2·8	·0000
22	129·6	329·2		111·0		+·0031	−·0003	+ 1·8	− 2·9	−·0001
27	129·8	329·0		111·8		+·0031	−·0002	+ 1·9	− 2·8	·0000
32	130·0	329·6		111·4		+·0031	−·0002	+ 2·0	− 2·8	·0000
37	130·1	328·8		111·4		+·0031	−·0002	+ 2·2	− 2·8	·0000
42	130·8	328·9		111·4		+·0031	−·0002	+ 2·6	− 2·8	·0000
47	130·3	328·5		111·5		+·0030	−·0002	+ 2·3	− 2·7	·0000
52	129·8	323·7		110·9		+·0026	−·0003	+ 1·8	− 2·4	−·0001
57	132·1	325·3		111·8		+·0027	−·0002	+ 3·5	− 2·4	·0000
22 02	130·1	327·8	59·2	111·8	59·7	+·0030	−·0002	+ 2·0	− 2·7	·0000
07	129·1	326·1		111·6		+·0028	−·0002	+ 1·1	− 2·5	·0000
12	131·2	328·0		111·6		+·0030	−·0003	+ 2·6	− 2·8	−·0001
17	130·6	326·8		111·6		+·0029	−·0003	+ 2·0	− 2·7	−·0001
22	130·6	323·9		111·6		+·0026	−·0003	+ 1·8	− 2·4	−·0001
27	132·8	319·2		111·3		+·0022	−·0003	+ 3·3	− 2·1	−·0001
32	133·7	321·1		111·7		+·0024	−·0003	+ 3·8	− 2·3	−·0001
37	131·2	322·0		111·8		+·0025	−·0003	+ 1·9	− 2·4	−·0001
42	130·2	321·8		111·8		+·0024	−·0003	+ 1·1	− 2·3	−·0001
47	130·1	322·0		111·8		+·0025	−·0003	+ 0·8	− 2·4	−·0001
52	131·3	322·0		111·8		+·0025	−·0003	+ 2·3	− 2·4	−·0001
57	130·3	321·0		111·8		+·0024	−·0003	+ 0·8	− 2·3	−·0001
23 02	131·2	320·8	59·2	112·3	59·3	+·0024	−·0002	+ 1·3	− 2·2	·0000
07	131·1	318·7		112·4		+·0022	−·0002	+ 1·1	− 2·0	·0000
12	132·2	321·2		112·9		+·0024	−·0002	+ 1·8	− 2·2	·0000
17	131·6	322·1		112·9		+·0025	−·0002	+ 1·2	− 2·3	·0000
22	131·6	322·2		112·9		+·0025	−·0002	+ 1·1	− 2·3	·0000
27	132·0	321·6		112·9		+·0024	−·0002	+ 1·3	− 2·2	·0000
32	132·4	321·8		113·9		+·0024	−·0001	+ 1·4	− 2·1	+·0001
37	132·7	321·1		112·8		+·0024	−·0002	+ 1·5	− 2·2	·0000
42	132·7	320·6		113·2		+·0023	−·0002	+ 1·4	− 2·1	·0000
47	133·1	320·0		113·1		+·0022	−·0002	+ 1·5	− 2·0	·0000
52	133·1	320·1		113·1		+·0022	−·0002	+ 1·4	− 2·0	·0000
57	133·0	320·0		113·1		+·0022	−·0002	+ 1·3	− 2·0	·0000
27 00 02	133·6	319·9	58·6	113·0	59·2	+·0021	−·0002	+ 1·5	− 1·9	·0000
07	133·4	319·8		113·6		+·0022	−·0002	+ 1·3	− 2·0	·0000
12	133·5	319·7		113·1		+·0022	−·0002	+ 1·3	− 2·0	·0000
17	133·8	319·5		113·0		+·0021	−·0002	+ 1 5	− 1·9	·0000
22	133·7	319·1		113·0		+·0021	−·0002	+ 1·3	− 1·9	·0000
27	133·7	319·2		113·0		+·0021	−·0002	+ 1·2	− 1·9	·0000
32	134·0	319·0		113·1		+·0021	−·0002	+ 1·3	− 1·9	·0000
37	132·9	318·0		113·2		+·0020	−·0002	+ 0·5	− 1·9	−·0001
42	134·0	318·8		113·2		+·0020	−·0002	+ 1·2	− 1·9	−·0001
47	134·0	318·8		113·2		+·0020	−·0002	+ 1·1	− 1·9	−·0001
52	134·4	318·6		113·2		+·0020	−·0002	+ 1·3	− 1·9	−·0001
57	134·3	318·7		113·1		+·0020	−·0002	+ 1·1	− 1·9	−·0001
01 02	134·1	318·9	58·4	113·1	59·0	+·0014	−·0002	+ 0·9	− 1·4	−·0001
07	134·0	318·4		113·1		+·0015	−·0002	+ 0·8	− 1·4	−·0001
12	134·0	319·1		113·0		+·0015	−·0002	+ 0·8	− 1·4	−·0001
17	135·0	318·9		113·0		+·0015	−·0002	+ 1·4	− 1·4	−·0001

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OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
						$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta \psi$	$\Delta \theta$	$\frac{\Delta \phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
27 01 22	134·8	318·5		112·9		+·0015	−·0002	+ 1·3	− 1·4	−·0001
27	134·3	318·6		112 9		+·0015	−·0002	+ 0·8	− 1·4	−·0001
32	134·9	317·9		112·9		+·0015	−·0002	+ 1·3	− 1·4	−·0001
37	134·0	318·5		112·9		+·0015	−·0002	+ 0·6	− 1·4	−·0001
42	133 2	317·6		113·0		+·0015	−·0002	0·0	− 1·4	−·0001
47	133·8	318·1		113 0		+·0015	−·0002	+ 0·4	− 1·4	−·0001
52	133·9	318·2		112·9		+·0015	−·0002	+ 0·4	− 1·4	−·0001
57	134·1	318·0		112·8		+·0015	−·0002	+ 0·5	− 1·4	−·0001
02 02	134·0	317·9	58·3	112·8	59·0	+·0021	−·0002	+ 0·4	− 1·9	·0000
07	133·3	318·2		112·8		+·0021	−·0002	+ 0·1	− 1·9	·0000
12	132·8	317·2		112·8		+·0020	−·0002	− 0·1	− 1·9	−·0001
17	132·9	317·1		112·9		+·0020	−·0001	0·0	− 1·8	·0000
22	132·3	317·5		112·9		+·0021	−·0001	− 0·3	− 1·9	·0000
27	131·7	317·5		112·9		+·0021	−·0001	− 0·6	− 1·9	·0000
32	131·9	317·2		112·9		+·0021	−·0001	− 0·3	− 1·9	·0000
37	132·0	316·2		112·9		+·0021	−·0001	− 0·1	− 1·9	·0000
42	132·2	315·8		112·7		+·0021	−·0001	+ 0·1	− 1·9	·0000
47	132·0	315·1		112·8		+·0020	−·0001	+ 0·1	− 1·8	·0000
52	131·9	313·0		112·8		+·0018	−·0001	+ 0·2	− 1·6	·0000
57	130·9	313·1		112·8		+·0018	−·0001	− 0·4	− 1·6	·0000
03 02	130·4	313·3	58·3	112·8	58·9	+·0019	−·0001	− 0·6	− 1·7	·0000
07	130·0	314·0		112·8		+·0020	−·0001	− 0·6	− 1·8	·0000
12	130·0	313·7		112·8		+·0019	−·0001	− 0·4	− 1·7	·0000
17	129·5	313·4		112·8		+·0019	−·0001	− 0·5	− 1·7	·0000
22	129·9	313 5		112·8		+·0019	−·0001	+ 0·1	− 1·7	·0000
27	129·1	313·1		112·8		+·0019	−·0001	− 0·3	− 1·7	·0000
32	127·4	314·9		112·8		+·0021	−·0001	− 1·2	− 1·9	·0000
37	127·0	313·6		112·3		+·0020	−·0001	− 1·2	− 1·8	·0000
42	126·9	313·7		112·4		+·0020	−·0001	− 1·1	− 1·8	·0000
47	126·5	314·0		112·4		+·0020	−·0001	− 1·1	− 1·8	·0000
52	125·9	313·9		112·1		+·0020	−·0001	− 1·2	− 1·8	·0000
57	128·0	312·8		112·1		+·0019	−·0001	+ 0·5	− 1·7	·0000
04 02	128·0	314·3	58·5	112·1	59·0	+·0021	−·0001	+ 0·8	− 1·9	·0000
07	128·0	314·1		111·6		+·0020	−·0001	+ 1·1	− 1·8	·0000
12	127·8	314·0		111·6		+·0020	−·0001	+ 1·1	− 1·8	·0000
17	126·0	313·9		111·6		+·0020	−·0001	+ 0·1	− 1·8	·0000
22	126·0	312·3		111·5		+·0018	−·0001	+ 0·4	− 1·6	·0000
27	125·2	313·3		111·9		+·0019	−·0001	+ 0·1	− 1·7	·0000
32	124·1	313·5		111·9		+·0019	−·0001	− 0·5	− 1·7	·0000
37	123·6	314·4		111·5		+·0020	−·0001	− 0·6	− 1·8	·0000
42	122·6	314·2		111·5		+·0019	−·0001	− 1·1	− 1·7	·0000
47	122·7	315·1		111·5		+·0020	−·0001	− 0·7	− 1·8	·0000
52	122·1	316·6		111·5		+·0021	−·0001	− 0·9	− 1·9	·0000
57	121·9	317·9		111·5		+·0022	−·0001	− 0·8	− 1·9	+·0001
05 02	121·6	317·9	58·8	111·7	59·0	+·0022	−·0001	− 0·8	− 1·9	+·0001
07	121·3	318·5		111·7		+·0023	−·0001	− 0·8	− 2·0	+·0001
12	120·8	319·1		111·6		+·0023	−·0001	− 0·9	− 2·0	+·0001
17	120·5	319·6		111·6		+·0024	−·0001	− 1·0	− 2·1	+·0001
22	120·3	319·9		111·2		+·0024	−·0001	− 0·9	− 2·1	+·0001
27	120·1	320·2		111·2		+·0024	−·0001	− 0·8	− 2·1	+·0001
32	118·9	321·2		111·2		+·0025	−·0001	− 1·5	− 2·2	+·0001
37	117·2	322·4		111·2		+·0026	−·0001	− 2·6	− 2·3	+·0001
42	118·5	324·4		111·2		+·0028	−·0001	− 1·3	− 2·4	+·0001
47	119·6	326·1		111·2		+·0030	−·0001	− 0·4	− 2·6	+·0001
52	119·5	326·1		111·0		+·0030	−·0001	− 0 3	− 2·6	+·0001
57	119·1	325·6		111·0		+·0030	−·0001	− 0·4	− 2·6	+·0001
06 02	118·3	325·4	59·8	111·0	59·1	+·0029	−·0001	− 0·7	− 2·5	+·0001
07	118·1	326·0		111·2		+·0029	−·0001	− 0·8	− 2·5	+·0001
12	118·0	326·2		111·2		+·0029	−·0001	− 0·8	− 2·5	+·0001
17	117·1	326·0		110·8		+·0028	−·0001	− 1·4	− 2·4	+·0001
22	116·8	325·0		110·8		+·0027	−·0001	− 1·5	− 2·4	+·0001
27	116·2	325·0		110·8		+·0026	−·0001	− 1·9	− 2·3	+·0001

1843.
Toronto.

May 27.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
						$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
27 06 32	116·1	325·0		110·8		+·0026	−·0001	− 1·9	− 2·3	+·0001
37	115·9	326·4		110·8		+·0027	−·0001	− 2·0	− 2·4	+·0001
42	116·1	328·0		111·0		+·0028	−·0001	− 1·8	− 2·4	+·0001
47	116·0	329·0		111·0		+·0028	−·0001	− 1·8	− 2·4	+·0001
52	116·0	330·5		111·4		+·0029	−·0001	− 1·8	− 2·5	+·0001
57	116·1	330·0		111·4		+·0028	−·0001	− 1·6	− 2·4	+·0001
07 02	115·9	329·0	59·5	111·4	59·5	+·0027	−·0001	− 1·7	− 2·4	+·0001
07	115·3	328·2		110·8		+·0026	−·0002	− 2·2	− 2·4	·0000
12	115·2	329·0		110·8		+·0026	−·0002	− 2·3	− 2·4	·0000
17	115·8	330·1		110·8		+·0027	−·0002	− 1·8	− 2·4	·0000
22	115·9	332·0		111·8		+·0029	−·0002	− 1·7	− 2·6	·0000
27	116·2	332·0		111·3		+·0028	−·0001	− 1·5	− 2·4	+·0001
32	116·4	332·2		111·3		+·0028	−·0002	− 1·3	− 2·5	·0000
37	116·5	332·8		111·9		+·0028	−·0001	− 1·3	− 2·4	+·0001
42	116·4	333·2		111·8		+·0029	−·0001	− 1·3	− 2·5	+·0001
47	116·8	333·0		111·8		+·0028	−·0001	− 1·1	− 2·4	+·0001
52	116·8	333·7		111·6		+·0029	−·0001	− 1·1	− 2·5	+·0001
57	117·3	333·7		112·1		+·0028	−·0001	− 0·7	− 2·4	+·0001
08 02	117·4	335·2	59·6	112·1	59·6	+·0029	−·0001	− 0·6	− 2·5	+·0001
07	117·0	337·3		112·4		+·0031	−·0001	− 1·0	− 2·7	+·0001
12	117·4	339·7		112·4		+·0034	−·0001	− 0·8	− 3·0	+·0001
17	118·3	335·0		111·9		+·0029	−·0001	− 0·2	− 2·5	+·0001
22	119·0	332·1		111·9		+·0026	−·0001	+ 0·2	− 2·3	+·0001
27	119·2	330·7		111·9		+·0024	−·0001	+ 0·3	− 2·1	+·0001
32	119·7	330·8		112·2		+·0024	−·0001	+ 0·6	− 2·1	+·0001
37	119·7	330·5		112·2		+·0024	−·0001	+ 0·5	− 2·1	+·0001
42	119·4	330·2		112·4		+·0023	−·0001	+ 0·2	− 2·0	+·0001
47	119·8	330·0		112·9		+·0023	−·0001	+ 0·4	− 2·0	+·0001
52	119·8	329·3		112·9		+·0022	−·0001	+ 0·4	− 1·9	+·0001
57	119·8	329·5		112·9		+·0022	−·0001	+ 0·3	− 1·9	+·0001
09 02	120·2	333·6	59·6	114·2	59·6	+·0026	+·0001	+ 0·5	− 2·1	+·0003
07	120·7	333·5		114·2		+·0026	·0000	+ 0·7	− 2·2	+·0002
12	120·8	334·5		114·0		+·0026	·0000	+ 0·6	− 2·2	+·0002
17	121·8	332·7		113·9		+·0024	·0000	+ 1·3	− 2·0	+·0002
22	121·9	332·0		113·5		+·0023	−·0001	+ 1·2	− 2·0	+·0001
27	122·0	332·5		113·5		+·0024	−·0001	+ 1·1	− 2·1	+·0001
32	122·3	333·2		113·5		+·0024	−·0001	+ 1·2	− 2·1	+·0001
37	122·7	331·4		113·4		+·0022	−·0001	+ 1·4	− 1·9	+·0001
42	123·1	328·7		113·3		+·0019	−·0001	+ 1·5	− 1·7	·0000
47	123·2	328·5		113·3		+·0018	−·0001	+ 1·5	− 1·6	·0000
52	123·3	329·1		113·3		+·0019	−·0001	+ 1·4	− 1·7	·0000
57	123·9	329·9		113·6		+·0019	−·0001	+ 1·8	− 1·7	·0000

1843.
St. Helena.

May 29.

For Mean Monthly Readings, *see* page 215.

ST. HELENA, 1843. MAY 29.

29 02 02	18·0	76·9	63·0	34·8	63·0	+·0018	−·0035	+ 2·5	− 6·4	+·0011
07	19·0	77·9		34·8		+·0020	−·0035	+ 3·2	− 6·5	+·0013
12	19·1	78·3		34·9		+·0021	−·0034	+ 3·3	− 6·5	+·0014
17	19·1	78·8		34·9		+·0022	−·0034	+ 3·3	− 6·6	+·0014
22	19·0	77·6		34·9		+·0021	−·0034	+ 3·2	− 6·5	+·0014
27	18·8	77·0		34·6		+·0020	−·0037	+ 3·1	− 6·7	+·0012
32	18·8	76·8		34·6		+·0020	−·0037	+ 3·1	− 6·7	+·0012
37	18·9	76·2		34·6		+·0019	−·0037	+ 3·1	− 6·6	+·0011
42	18·8	75·7		34·6		+ 0018	−·0037	+ 3·0	− 6·5	+·0011
47	18·5	75·9		34·6		+·0019	−·0037	+ 2·8	− 6·6	+·0011
52	18·8	76·0		34·6		+·0019	−·0037	+ 3·0	− 6·6	+·0011
57	18·5	74·9		34·6		+·0018	−·0037	+ 2·8	− 6·5	+·0011
03 02	18·0	73·8	63·3	34·6	63·3	+·0016	−·0037	+ 2·5	− 6·1	+·0009
07	17·8	73·0		34·6		+·0015	−·0037	+ 2·3	− 6·1	+·0008
12	18·0	72·8		34·6		+·0015	−·0037	+ 2·5	− 6·1	+·0008
17	17·5	72·0		34·6		+·0014	−·0037	+ 2·1	− 6·0	+·0007

1843.
St. Helena.
May 29.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
						$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm.	Sc. Div.	Therm.	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
29 03 22	17·5	71·4		34·6		+·0013	−·0037	+ 2·1	− 5·9	+·0006
27	17·5	71·1		34·6		+·0013	−·0037	+ 2·1	− 5·9	+·0006
32	17·5	71·0		34·7		+·0013	−·0036	+ 2·1	− 5·8	+·0006
37	17·6	70·9		34·7		+·0013	−·0037	+ 2·2	− 5·9	+·0006
42	17·4	69·9		34·7		+·0011	−·0037	+ 2·0	− 5·7	+·0004
47	17·2	69·9		35·0		+·0011	−·0034	+ 1·9	− 5·3	+·0005
52	17·1	69·8		34·8		+·0011	−·0036	+ 1·8	− 5·4	+·0005
57	17·1	69·7		34·8		+·0012	−·0036	+ 1·8	− 5·7	+·0005
04 02	17·1	69·1	63·6	34·8	63·4	+·0011	−·0036	+ 1·8	− 5·4	+·0005
07	17·0	69·1		34·9		+·0011	−·0035	+ 1·8	− 5·4	+·0005
12	16·8	68·9		34·9		+·0011	−·0035	+ 1·6	− 5·4	+·0005
17	16·3	67·2		34·9		+·0008	−·0035	+ 1·3	− 4·9	+·0002
22	15·9	66·4		34·8		+·0007	−·0036	+ 1·0	− 4·9	+·0001
27	15·9	66·1		34·8		+·0006	−·0036	+ 1·0	− 4·9	·0000
32	15·9	66·0		34·8		+·0006	−·0036	+ 1·0	− 4·9	·0000
37	16·0	65·7		34·8		+·0006	−·0035	+ 1·1	− 4·8	+·0001
42	16·0	65·1		34·8		+·0005	−·0035	+ 1·1	− 4·7	·0000
47	15·9	64·9		34·8		+·0005	−·0035	+ 1·1	− 4·7	·0000
52	15·8	64·8		34·8		+·0005	−·0035	+ 1·0	− 4·7	·0000
57	15·7	64·8		34·8		+·0005	−·0035	+ 0·9	− 4·7	·0000
05 02	15·4	64·7	63·7	34·8	63·5	+·0005	−·0035	+ 0·7	− 4·7	·0000
07	15·1	64·3		34·8		+·0004	−·0035	+ 0·6	− 4·6	−·0001
12	15·0	64·3		34·8		+·0005	−·0035	+ 0·5	− 4·7	·0000
17	15·0	64·4		34·8		+·0005	−·0035	+ 0·6	− 4·7	·0000
22	14·9	64·4		34·8		+·0005	−·0035	+ 0·6	− 4·7	·0000
27	14·9	64·8		34·8		+·0006	−·0035	+ 0·6	− 4·8	+·0001
32	14·2	64·2		34·8		+·0005	−·0035	+ 0·1	− 4·7	·0000
37	14·0	63·9		34·6		+·0005	−·0037	+ 0·1	− 4·9	−·0001
42	13·9	63·7		34·6		+·0005	−·0037	0·0	− 4·9	−·0001
47	13·9	63·7		34·6		+·0005	−·0037	+ 0·1	− 4·9	−·0001
52	13·8	63·7		34·6		+·0005	−·0037	+ 0·1	− 4·9	−·0001
57	13·8	—		—		—	—	+ 0·1	—	—
06 02	13·8	63·7	63·8	34·6	63·8	+·0005	−·0037	+ 0·1	− 4·9	−·0001
07	13·8	63·4		34·8		+·0005	−·0036	+ 0·1	− 4·8	·0000
12	14·0	63·2		34·8		+·0004	−·0036	+ 0·3	− 4·7	−·0001
17	14·0	62·9		34·8		+·0004	−·0036	+ 0·3	− 4·7	−·0001
22	14·0	62·7		34·8		+·0004	−·0036	+ 0·3	− 4·7	−·0001
27	14·0	62·4		34·8		+·0003	−·0036	+ 0·3	− 4·6	−·0002
32	14·0	62·0		34·8		+·0003	−·0036	+ 0·3	− 4·6	−·0002
37	13·9	61·8		34·8		+·0003	−·0036	+ 0·2	− 4·6	−·0002
42	13·8	61·3		34·8		+·0002	−·0036	+ 0·1	− 4·5	−·0003
47	13·8	61·0		34·8		+·0001	−·0036	+ 0·1	− 4·2	−·0004
52	13·7	61·0		34·8		+·0001	−·0036	+ 0·1	− 4·2	−·0004
57	13·6	—		—		—	—	0·0	—	—
07 02	13·3	61·0	63·8	34·8	63·7	+·0002	−·0036	− 0·2	− 4·5	−·0003
32	13·9	61·2		34·8		+·0003	−·0036	+ 0·1	− 4·6	−·0002
08 02	14·3	61·0	63·7	34·8	63·7	+·0003	−·0037	+ 0·4	− 4·7	−·0002
32	14·2	61·0		34·8		+·0004	−·0036	+ 0·3	− 4·7	−·0001
09 02	14·3	60·6	63·6	34·7	63·7	+·0003	−·0036	+ 0·3	− 4·6	−·0002

1843. Van Diemen Island. June 30.

VAN DIEMEN ISLAND, 1843. JUNE 30.

MEAN MONTHLY READINGS OF THE MAGNETOMETERS.

Mean Göttingen Time.	Declination.	H. F. at 51°·2.	V. F. at 50°·2.	Mean Göttingen Time.	Declination.	H. F. at 51°·2.	V. F. at 50°·2.
Hours.	Sc. Div.	Sc. Div.	Sc. Div.	Hours.	Sc. Div.	Sc. Div.	Sc. Div.
00	88·5	95·6	28·6	12	87·8	98·0	18·8
01	88·2	95·9	24·9	13	87·3	95·6	20·7
02	88·3	95·3	25·0	14	88·4	91·7	24·4
03	88·8	95·5	24·8	15	89·8	90·1	26·4
04	89·3	96·0	24·0	16	91·2	90·6	27·8
05	90·3	96·4	24·3	17	92·0	92·6	26·5
06	89·8	95·6	23·6	18	92·3	95·4	25·1
07	89·9	96·9	22·7	19	91·1	97·4	23·6
08	89·9	96·9	21·6	20	90·0	97·0	22·4
09	89·7	97·3	21·6	21	89·8	96·4	23·4
10	89·2	97·7	19·8	22	89·1	96·2	23·4
11	88·7	98·1	18·3	23	88·7	95·8	24·1

Coefficients (A), Approximate Absolute Values (B).

(A)
- Declin. a = 0′·71
- H. F. k = ·000120, q = ·000234
- V. F. k = ·000036, q = ·00021

(B) Approx.
- ψ = − 9° 55′
- X = 4·51
- Y = 12·86
- θ = − 70° 37′
- ϕ = 13·62

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours. $\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
30 05 02	97·6	102·3	48·5	45·6	48·5	+·0001	+·0004	+ 5·2	+ 0·3	+·0004
12	94·3	104·1		36·1		+·0003	+·0001	− 0·2	− 0·2	−·0001
17	92·7	104·2		33·5		+·0003	·0000	+ 1·8	− 0·3	·0000
22	91·4	104·3		31·2		+·0004	−·0001	+ 0·9	− 0·4	·0000
27	90·3	102·6		30·6		+·0002	−·0001	+ 0·1	− 0·3	·0000
32	89·4	101·8		30·7		+·0001	−·0001	− 0·5	− 0·2	−·0001
37	89·3	100·1		32·7		−·0001	·0000	− 0·5	+ 0·1	·0000
42	89·6	99·2		34·2		−·0002	·0000	− 0·3	+ 0·2	·0000
47	89·5	99·4		34·4		−·0001	·0000	− 0·3	+ 0·1	·0000
52	89·2	99·1		34·2		−·0001	·0000	− 0·5	+ 0·1	+·0001
57	88·5	—		—		—	—	− 1·0	—	—
06 02	88·5	96·4	49·0	36·9	48·5	−·0004	+·0001	− 0·9	+ 0·6	·0000
07 02	92·4	100·5	48·6	36·0	48·2	−·0002	+·0001	+ 1·8	+ 0·3	+·0001
08 02	92·8	98·8	48·0	40·5	48·0	−·0005	+·0002	+ 2·0	+ 0·8	+·0001
09 02	90·1	99·8	48·0	36·9	48·0	−·0005	+·0001	+ 0·3	+ 0·7	·0000
10 02	89·3	102·0	47·2	34·1	47·8	−·0004	·0000	+ 0·1	+ 0·4	·0000
11 02	87·1	96·0	47·3	34·9	47·4	−·0012	·0000	− 1·1	+ 1·3	−·0001
07	87·0	—		—		—	—	− 1·1	—	—
12	89·6	—		—		—	—	− 0·8	—	—
17	92·8	—		—		—	—	+ 3·1	—	—
22	95·2	—		—		—	—	+ 4·8	—	—
27	97·7	92·3		58·1		−·0016	+·0009	+ 6·7	+ 2·7	+·0006
32	98·4	94·2		54·8		−·0014	+·0007	+ 7·2	+ 2·3	+·0005
37	96·0	96·8		49·8		−·0011	+·0006	+ 5·5	+ 1·8	+·0004
42	94·0	99·9		44·7		−·0007	+·0004	+ 4·2	+ 1·2	+·0003
47	92·1	101·3		40·0		−·0005	+·0002	+ 2·9	+ 0·8	+·0001
52	91·1	101·2		37·0		−·0005	+·0001	+ 2·3	+ 0·7	·0000
57	89·7	100·2		36·6		−·0006	+·0001	+ 1·3	+ 0·8	·0000
12 02	89·6	98·8	47·3	35·4	47·7	−·0008	+·0001	+ 1·3	+ 1·0	·0000
07	89·4	97·7		34·9		−·0009	+·0001	+ 1·1	+ 1·1	·0000
12	89·0	98·2		35·0		−·0008	+·0001	+ 0·9	+ 1·0	·0000
17	89·0	97·4		35·3		−·0009	+·0001	+ 0·9	+ 1·1	·0000
22	89·0	97·2		35·8		−·0009	+·0001	+ 1·0	+ 1·1	·0000
27	89·1	97·6		35·0		−·0008	+·0001	+ 1·0	+ 1·0	·0000
13 02	90·0	99·4	47·3	32·9	47·3	−·0005	−·0002	+ 1·9	+ 0·3	−·0002

1843.
Van Diemen Island.

July 3.

VAN DIEMEN ISLAND, 1843. JULY 3.

MEAN MONTHLY READINGS OF THE MAGNETOMETERS.

Mean Göttingen Time.	Declination. (a)	H. F. (a) at 51°·2.	V. F (b) at 47°·7.	Mean Göttingen Time.	Declination. (a)	H. F. (a) at 51°·2.	V. F. (b) at 47°·7.
Hours.	Sc. Div.	Sc. Div.	Sc. Div.	Hours.	Sc. Div.	Sc. Div.	Sc. Div.
00	88·5	95·6	54·0	12	87·8	98·0	54·0
01	88·2	95·9	55·0	13	87·3	95·6	54·4
02	88·3	95·3	57·0	14	88·4	91·7	59·6
03	88·8	95·5	57·3	15	89·8	90·1	59·3
04	89·3	96·0	58·0	16	91·2	90·6	59·7
05	90·3	96·4	58·6	17	92·0	92·6	58·3
06	89·8	95·6	57·8	18	92·3	95·4	60·9
07	89·9	96·9	57·0	19	91·1	97·4	57·5
08	89·9	96·9	57·2	20	90·0	97·0	53·8
09	89·7	97·3	55·9	21	89·8	96·4	55·1
10	89·2	97·7	54·6	22	89·1	96·2	55·8
11	88·7	98·1	54·4	23	88·7	95·8	54·0

Coefficients (A), Approximate Absolute Values (B).

(A)
- Declin. $a = 0'\cdot71$
- H. F. $k = \cdot000120$, $q = \cdot000234$
- V. F. $k = \cdot000036$, $q = \cdot00021$

(B) Approx.
- $\psi = -9°\ 55'$
- X = 4·51
- Y = 12·86
- $\theta = -70°\ 37'$
- ϕ = 13·62

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
3 10 02	—	98·3	49·8	46·2	49·0	−·0003	−·0006	—	− 0·3	−·0006
11 02	99·6	94·9	49·8	50·2	49·0	−·0007	−·0004	+ 7·7	+ 0·3	−·0004
07	98·7	95·2		50·2		−·0007	−·0004	+ 7·8	+ 0·3	−·0004
12	97·6	94·8		47·9		−·0007	−·0005	+ 6·5	+ 0·2	−·0005
17	96·9	95·2		48·0		−·0006	−·0005	+ 6·0	+ 0·1	−·0005
22	95·7	94·8		45·4		−·0007	−·0006	+ 5·2	+ 0·1	−·0006
27	94·0	94·7		47·3		−·0007	−·0005	+ 4·1	+ 0·2	−·0005
32	94·3	93·3		45·5		−·0008	−·0006	+ 4·4	+ 0·2	−·0006
37	93·3	94·2		44·7		−·0007	−·0006	+ 3·7	+ 0·1	−·0006
42	93·0	95·1		45·1		−·0006	−·0006	+ 3·4	0·0	−·0006
47	92·5	94·5		43·9		−·0006	−·0007	+ 3·2	− 0·1	−·0007
52	91·9	93·7		44·0		−·0007	−·0007	+ 2·8	0·0	−·0007
57	91·5	93·3		43·2		−·0007	−·0007	+ 2·5	0·0	−·0007
12 02	90·7	93·1	50·6	43·6	48·8	−·0007	−·0007	+ 2·0	0·0	−·0007
07	89·7	91·8		43·9		−·0008	−·0007	+ 1·3	+ 0·1	−·0007
12	90·1	91·4		45·1		−·0009	−·0006	+ 1·7	+ 0·3	−·0006
17	89·9	91·0		43·5		−·0009	−·0007	+ 1·5	+ 0·2	−·0007
22	89·9	90·1		44·4		−·0009	−·0006	+ 1·6	+ 0·3	−·0006
27	90·1	91·8		43·5		−·0007	−·0006	+ 1·8	+ 0·1	−·0006
32	〃	92·4		43·7		−·0006	−·0006	—	0·0	−·0006
37	89·6	90·6		42·1		−·0007	−·0007	+ 1·5	0·0	−·0007
42	89·0	91·0		40·9		−·0006	−·0007	+ 1·1	− 0·1	−·0007
47	87·6	91·9		39·8		−·0005	−·0008	+ 0·1	− 0·3	−·0008
52	87·5	91·2		39·0		−·0005	−·0008	+ 0·1	− 0·3	−·0008
57	87·5	90·6		38·7		−·0006	−·0008	+ 0·1	− 0·2	−·0008
13 02	85·7	90·5	51·6	38·7	49·2	−·0005	−·0008	− 1·1	− 0·3	−·0008
07	87·3	91·0		38·6		−·0004	−·0008	− 0·1	− 0·4	−·0008
12	88·2	90·7		35·8		−·0004	−·0009	+ 0·5	− 0·6	−·0008
17	89·0	90·7		37·1		−·0003	−·0009	+ 1·0	− 0·7	−·0008
22	88·7	89·6		34·7		−·0004	−·0010	+ 0·7	− 0·7	−·0009
14 02	—	87·5	52·3	39·0	49·5	−·0002	−·0009	—	− 0·8	−·0008

(a) The Declination and Bifilar Magnetometers having been newly adjusted early in July, the normal values employed are the mean readings for June.
(b) Mean of readings from 1st to 14th only.

1843.
Toronto.

July 19.

TORONTO, 1843. JULY 19—20.

MEAN MONTHLY READINGS OF THE MAGNETOMETERS.

Mean Göttingen Time.	Declination.	H. F. at 70°·7.	V. F. at 70°·1.	Mean Göttingen Time.	Declination.	H. F. at 70°·7.	V. F. at 70°·1.
Hours.	Sc. Div.	Sc. Div.	Sc. Div.	Hours.	Sc. Div.	Sc. Div.	Sc. Div.
00	131·4	57·2	42·3	12	124·5	75·7	44·6
01	132·8	56·8	42·2	13	124·8	71·5	44·2
02	132·2	55·6	42·4	14	124·5	67·1	43·9
03	130·3	54·8	42·3	15	126·4	64·7	42·3
04	126·2	53·2	42·1	16	126·7	63·8	41·8
05	122·3	55·2	42·1	17	126·7	64·1	42·0
06	118·9	60·0	42·6	18	127·4	63·4	41·7
07	116·6	65·4	43·0	19	126·8	61·6	41·4
08	117·3	71·7	43·8	20	126·6	61·7	41·3
09	118·3	77·1	44·5	21	126·7	61·4	41·4
10	119·9	77·9	44·9	22	127·7	59·1	42·0
11	122·8	77·9	45·3	23	128·0	57·3	42·3

Coefficients (A), Approximate Absolute Values (B).

(A)
- Declin. a = 0′·721
- H. F. k = ·000099, q = ·00027
- V. F. k = ·000094, q = ·00007

(B) Approx.
- ψ = 1° 24′
- X = 3·54
- Y = 13·44
- θ = 75° 16′
- ϕ = 13·90

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
19 10 02	121·0	74·5	72·3	40·3	71·2	+·0001	−·0004	+ 0·8	− 0·4	−·0004
07	120·8	74·1		40·3		+·0001	−·0004	+ 0·5	− 0·4	−·0004
12	121·0	74·6		40·3		+·0001	−·0004	+ 0·4	− 0·4	−·0004
17	121·3	75·1		40·3		+·0002	−·0004	+ 0·5	− 0·5	−·0004
22	121·8	76·4		40·3		+·0003	−·0004	+ 0·6	− 0·6	−·0004
27	122·1	75·9		40·5		+·0003	−·0004	+ 0·7	− 0·6	−·0004
32	122·7	76·2		40·5		+·0003	−·0004	+ 1·0	− 0·6	−·0004
37	122·8	75·9		40·5		+·0003	−·0004	+ 0·8	− 0·6	−·0004
42	122·9	75·9		40·5		+·0003	−·0004	+ 0·8	− 0·6	−·0004
47	123·0	75·2		40·5		+·0002	−·0004	+ 0·6	− 0·5	−·0004
52	123·0	75·0		40·4		+·0002	−·0004	+ 0·5	− 0·5	−·0004
57	123·3	75·8		40·4		+·0003	−·0004	+ 0·5	− 0·6	−·0004
11 02	123·7	77·1	72·6	40·4	71·4	+·0004	−·0004	+ 0·6	− 0·7	−·0004
07	124·0	78·6		40·4		+·0006	−·0004	+ 0·8	− 0·9	−·0003
12	125·0	78·9		40·7		+·0007	−·0003	+ 1·3	− 0·9	−·0002
17	125·3	79·1		40·7		+·0007	−·0003	+ 1·5	− 0·9	−·0002
22	125·6	78·1		40·6		+·0006	−·0003	+ 1·5	− 0·8	−·0002
27	125·5	79·0		40·6		+·0007	−·0003	+ 1·4	− 0·9	−·0002
32	126·0	76·7		40·6		+·0005	−·0003	+ 1·7	− 0·7	−·0003
37	126·0	75·9		40·4		+·0005	−·0004	+ 1·5	− 0·8	−·0003
42	126·0	74·0		40·4		+·0003	−·0003	+ 1·4	− 0·5	−·0003
47	126·0	73·9		40·4		+·0003	−·0003	+ 1·3	− 0 5	−·0003
52	126·1	72·9		40·4		+·0002	−·0003	+ 1·3	− 0·4	−·0003
57	126·1	72·1		40·4		+·0001	−·0003	+ 1·2	− 0·3	−·0003
12 02	125·8	71·3	72·6	40·4	71·3	+·0001	−·0003	+ 0·9	− 0·3	−·0003
07	125·6	71·0		40·4		+·0001	−·0003	+ 0·8	− 0·3	−·0003
12	125·7	71·9		40·4		+·0002	−·0003	+ 0·8	− 0·4	−·0003
17	126·2	72·1		40·4		+·0002	−·0003	+ 1·1	− 0·4	−·0003
22	126·1	71·8		40·4		+·0002	−·0003	+ 1·1	− 0·4	−·0003
27	126·2	71·2		40·4		+·0002	−·0003	+ 1·1	− 0·4	−·0003
32	125·8	70·6		40·4		+·0001	−·0003	+ 0·8	− 0·3	−·0003
37	125·7	70·7		40·4		+·0002	−·0003	+ 0·7	− 0·4	−·0003
42	125·5	70·7		40·3		+·0002	−·0003	+ 0·6	− 0·4	−·0003
47	125·5	70·8		40·3		+·0003	−·0003	+ 0·6	− 0·5	−·0003
52	125·5	71·6		40·3		+·0003	−·0003	+ 0·5	− 0·5	−·0003
57	125·3	71·4		40·6		+·0004	−·0003	+ 0·4	− 0·6	−·0003
13 02	125·9	71·7	72·1	40·6	71·0	+·0005	−·0003	+ 0·8	− 0·7	−·0003
07	125·9	72·0		40·6		+·0005	−·0003	+ 0·8	− 0·7	−·0003

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Mean Göttingen Time.			Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
								$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D.	H.	M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
19	13	12	125·8	71·9		40·6		+·0005	−·0003	+ 0·8	− 0·7	−·0003
		17	125·5	72·5		40·6		+·0005	−·0003	+ 0·6	− 0·7	−·0003
		22	125·4	72·3		40·6		+·0005	−·0003	+ 0·5	− 0·7	−·0003
		27	125·4	72·7		40·6		+·0006	−·0003	+ 0·5	− 0·8	−·0002
		32	125·6	73·2		40·6		+·0007	−·0003	+ 0·7	− 0·9	−·0002
		37	125·6	73·0		40·6		+·0007	−·0003	+ 0·7	− 0·9	−·0002
		42	125·4	73·7		40·6		+·0007	−·0003	+ 0·6	− 0·9	−·0002
		47	125·6	72·6		40·1		+·0007	−·0003	+ 0·7	− 0·9	−·0002
		52	125·1	71·4		39·8		+·0006	−·0003	+ 0·4	− 0·8	−·0002
		57	125·0	72·1		39·8		+·0006	−·0003	+ 0·4	− 0·8	−·0002
	14	02	125·1	71·6	71·3	39·5	71·0	+·0006	−·0004	+ 0·4	− 0·9	−·0003
		07	125·0	71·7		39·5		+·0006	−·0003	+ 0 2	− 0·8	−·0002
		12	125·1	71·1		39·0		+·0006	−·0004	+ 0·2	− 0·9	−·0003
		17	125·3	73·0		38·9		+·0008	−·0004	+ 0·2	− 1·0	−·0003
		22	125·9	73·1		38·8		+·0008	−·0004	+ 0·6	− 1·0	−·0003
		27	125·9	73·0		38·8		+·0008	−·0003	+ 0·4	− 0·9	−·0002
		32	125·7	72·0		38·7		+·0007	−·0003	+ 0·2	− 0·9	−·0002
		37	125·5	71·8		38·7		+·0007	−·0003	− 0·1	− 0·9	−·0002
		42	125·3	72·1		38·7		+·0007	−·0003	− 0·4	− 0·9	−·0002
		47	125·8	73·0		38·7		+·0008	−·0003	− 0·1	− 0·9	−·0002
		52	125·7	71·5		38·7		+·0007	−·0003	− 0·3	− 0·9	−·0002
		57	125·6	69·9		38·7		+·0006	−·0003	− 0·4	− 0·8	−·0002
	15	02	125·5	70·6	70·9	38·7	71·5	+·0006	−·0003	− 0·6	− 0·8	−·0002
		07	125·6	70·9		38·7		+·0007	−·0003	− 0·6	− 0·9	−·0002
		12	125·9	71·0		38·7		+·0007	−·0003	− 0·4	− 0·9	−·0002
		17	126·0	70·7		38·7		+·0006	−·0003	− 0·4	− 0·8	−·0002
		22	126·2	70·0		38·7		+·0006	−·0002	− 0·2	− 0·7	−·0002
		27	126·2	71·1		38·7		+·0006	−·0003	− 0·2	− 0·8	−·0002
		32	126·2	71·9		38·9		+·0007	−·0002	− 0·3	− 0·8	−·0001
		37	125·7	70·4		38·9		+·0006	−·0002	− 0·6	− 0·7	−·0002
		42	126·4	69·9		38·9		+·0005	−·0002	− 0·1	− 0·6	−·0002
		47	126·9	70·7		38·9		+·0006	−·0002	+ 0·2	− 0·7	−·0002
		52	127·2	68·4		38 9		+·0003	−·0002	+ 0·4	− 0·4	−·0002
		57	126·3	67·3		38·9		+·0002	−·0002	− 0·3	− 0·3	−·0002
	16	02	126·5	65·0	70·2	38·9	70·9	·0000	−·0002	− 0·1	− 0·2	−·0002
		07	127·1	65·9		39·3		+·0001	−·0002	+ 0·3	− 0·2	−·0002
		12	127·8	66·0		39·3		·0000	−·0002	+ 0·8	− 0·2	−·0002
		17	128·4	65·3		39·3		−·0001	−·0002	+ 1·2	− 0·1	−·0002
		22	128·8	64·3		39·3		−·0002	−·0002	+ 1·5	0·0	−·0002
		27	129·2	63·8		39·1		−·0002	−·0002	+ 1·8	0·0	−·0002
		32	129·4	64·8		39·1		−·0001	−·0002	+ 1·9	− 0·1	−·0002
		37	128·1	64·2		39·1		−·0002	−·0002	+ 1·0	0·0	−·0002
		42	128·8	64·0		38·8		−·0003	−·0003	+ 1·5	0·0	−·0003
		47	128·4	64·8		38·8		−·0002	−·0003	+ 1·2	− 0·1	−·0003
		52	127·5	63·4		38·8		−·0004	−·0003	+ 0·6	+ 0·1	−·0003
		57	127·6	63·2		38·8		−·0004	−·0003	+ 0·6	+ 0·1	−·0003
	17	02	127·5	63·5	69·5	38·8	70·7	−·0004	−·0003	+ 0·6	+ 0·1	−·0003
		07	127·1	62·7		38·8		−·0005	−·0003	+ 0·2	+ 0·2	−·0003
		12	127·9	63·4		38·8		−·0004	−·0003	+ 0·8	+ 0·1	−·0003
		17	128·0	64·7		38·8		−·0003	−·0003	+ 0·8	0·0	−·0003
		22	128·2	65·1		38·8		−·0003	−·0003	+ 0·9	0·0	−·0003
		27	127·5	65·5		38·8		−·0003	−·0003	+ 0·4	0·0	−·0003
		32	127·3	65·8		39·1		−·0003	−·0002	+ 0·2	+ 0·1	−·0002
		37	128·0	68·2		39·8		·0000	−·0002	+ 0·6	− 0·2	−·0002
		42	127·3	69·6		40·0		+·0001	−·0002	+ 0·1	− 0·2	−·0002
		47	126·5	69·8		40·0		+·0001	−·0002	− 0·6	− 0·2	−·0002
		52	125·9	69·6		40·0		+·0001	−·0002	− 1·0	− 0·2	−·0002
		57	126·0	70·4		40·0		+·0001	−·0002	− 0·9	− 0·2	−·0002
	18	02	125·6	69·9	68·6	40·0	70·1	+·0001	−·0002	− 1·3	− 0·2	−·0002
		07	125·5	70·8		40·2		+·0002	−·0002	− 1·3	− 0·3	−·0002
		12	125·1	71·0		40·1		+·0002	−·0002	− 1·5	− 0·3	−·0002
		17	124·7	71·5		40·1		+·0002	−·0002	− 1·8	− 0·3	−·0002

1843. Toronto.

July 19.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
						$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
19 18 22	125·1	72·8		40·1		+·0004	−·0002	− 1·5	− 0·5	−·0002
27	125·1	72·7		40·1		+·0003	−·0002	− 1·4	− 0·4	−·0002
32	125·0	72·4		40·1		+·0003	−·0002	− 1·5	− 0·4	−·0002
37	125·2	73·0		40·1		+·0004	−·0002	− 1·3	− 0·5	−·0002
42	125·4	72·8		40·2		+·0004	−·0002	− 1·1	− 0·5	−·0002
47	125·1	73·0		40·2		+·0004	−·0002	− 1·3	− 0·5	−·0002
52	125·0	72·9		40·4		+·0003	−·0001	− 1·3	− 0·3	−·0001
57	125·0	73·5		40·5		+·0004	−·0001	− 1·3	− 0·4	−·0001
19 02	125·0	73·4	68·0	40·5	69·3	+·0004	−·0001	− 1·3	− 0·4	−·0001
07	125·0	74·0		40·5		+·0005	−·0001	− 1·3	− 0·5	−·0001
12	125·0	74·3		40·5		+·0005	−·0002	− 1·3	− 0·6	−·0002
17	125·0	74·8		41·1		+·0006	−·0001	− 1·3	− 0·6	−·0001
22	125·2	76·6		41·1		+·0007	−·0001	− 1·1	− 0·7	−·0001
27	125·0	75·3		41·1		+·0006	−·0001	− 1·2	− 0·6	−·0001
32	125·1	76·8		41·1		+·0007	−·0001	− 1·1	− 0·7	−·0001
37	125·0	76·1		41·1		+·0006	−·0001	− 1·2	− 0·6	−·0001
42	124·1	76·3		41·3		+·0006	−·0001	− 1·8	− 0·6	−·0001
47	123·5	75·8		41·3		+·0006	−·0001	− 2·3	− 0·6	−·0001
52	123·8	77·0		41 3		+·0005	−·0001	− 2·0	− 0·5	−·0001
57	124·0	75·6		41·3		+·0007	−·0001	− 1·8	− 0·7	−·0001
20 02	125·0	75·6	67·5	41·3	68·7	+·0005	−·0001	− 1·1	− 0·5	−·0001
07	125·5	76·5		41·3		+·0006	−·0001	− 0·8	− 0·6	−·0001
12	125·8	75·0		41·3		+·0005	−·0001	− 0·6	− 0·5	−·0001
17	126·0	75·5		41·3		+·0005	−·0001	− 0·4	− 0·5	−·0001
22	126·0	76·8		41·3		+·0006	−·0001	− 0·4	− 0·6	−·0001
27	126·1	77·1		41·3		+·0006	−·0001	− 0·4	− 0·6	−·0001
32	126·0	75·3		41·7		+·0004	−·0001	− 0·4	− 0·4	−·0001
37	125·8	76·9		41·7		+·0006	−·0001	− 0·6	− 0·6	−·0001
42	126·0	76·6		41·7		+·0006	−·0001	− 0·5	− 0·6	−·0001
47	125·5	77·0		41·7		+·0006	−·0001	− 0·8	− 0·6	−·0001
52	125·0	76·0		41·7		+·0005	−·0001	− 1·2	− 0·5	−·0001
57	124·6	75·5		41·7		+·0004	−·0001	− 1·5	− 0·4	−·0001
21 02	124·0	75·9	67·0	41·7	68·2	+·0004	−·0001	− 1·9	− 0·4	−·0001
07	124·0	76·6		41·7		+·0005	−·0001	− 2·0	− 0·5	−·0001
12	124·0	76·5		41·7		+·0005	−·0001	− 2·0	− 0·5	−·0001
17	124·2	76·5		42·0		+·0005	−·0001	− 1·9	− 0·5	−·0001
22	124·0	76·3		41·7		+·0005	−·0001	− 2·2	− 0·5	−·0001
27	124·3	76·9		41·6		+·0005	−·0002	− 2·0	− 0·6	−·0002
32	124·9	76·1		41·5		+·0005	−·0002	− 1·6	− 0·6	−·0002
37	125·2	76·5		41·5		+·0006	−·0002	− 1·5	− 0·7	−·0002
42	125·1	76·3		41·5		+·0006	−·0002	− 1·6	− 0·7	−·0002
47	125·2	75·4		41·4		+·0005	−·0002	− 1·5	− 0·6	−·0002
52	125·5	76·3		41·8		+·0006	−·0002	− 1·4	− 0·7	−·0002
57	125·9	76·3		41·9		+·0006	−·0002	− 1·2	− 0·7	−·0002
22 02	125·7	76·0	66·6	41·9	67·9	+·0006	−·0002	− 1·4	− 0·7	−·0002
07	126·4	76·7		41·8		+·0006	−·0002	− 0·9	− 0·7	−·0002
12	126·8	75·8		41·8		+·0005	−·0002	− 0·7	− 0·6	−·0002
17	126·9	76·4		42·0		+·0006	−·0002	− 0·6	− 0·7	−·0002
22	127·0	75·8		42·2		+·0005	−·0002	− 0·6	− 0·6	−·0002
27	127·1	76·3		42·2		+·0006	−·0002	− 0·5	− 0·7	−·0002
32	128·0	77·2		42·2		+·0006	−·0002	+ 0·1	− 0·7	−·0002
37	127·9	77·4		42·2		+·0007	−·0002	0·0	− 0·8	−·0001
42	128·0	77·3		42·3		+·0006	−·0002	+ 0·1	− 0·7	−·0002
47	128·2	77·0		43·0		+·0006	−·0001	+ 0·2	− 0·6	−·0001
52	128·2	79·0		43·7		+·0008	−·0001	+ 0·1	− 0·8	·0000
57	127 9	77·5		43·7		+·0006	−·0001	+ 0·1	− 0·6	−·0001
23 02	129·1	76·9	65·6	43·8	66·5	+·0006	−·0001	+ 0·8	− 0·6	−·0001
07	130·0	74·9		43·9		+·0004	−·0001	+ 1·2	− 0·4	−·0001
12	130·1	75·5		44·5		+·0004	·0000	+ 1·1	− 0·3	·0000
17	130·2	76·7		44·4		+·0006	−·0000	+ 1·0	− 0·5	·0000
22	130·3	74·7		44·3		+·0004	−·0001	+ 0·8	− 0·4	−·0001
27	131·0	77·1		44·2		+·0006	−·0001	+ 1·1	− 0·6	−·0001

1843.
Toronto.

July 19—20.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
19 23 32	131·2	78·2		43·7		+·0007	−·0001	+ 1·1	− 0·7	−·0001
37	131·2	78·6		44·2		+·0008	−·0001	+ 0·8	− 0·8	·0000
42	132·0	77·4		44·2		+·0007	−·0001	+ 1·2	− 0·7	−·0001
47	132·3	78·5		44·5		+·0008	−·0001	+ 1·3	− 0·8	·0000
52	132·3	77·8		44·3		+·0008	−·0001	+ 1·1	− 0·8	·0000
57	131·9	79·6		44·1		+·0009	−·0001	+ 0·6	− 0·9	·0000
20 00 02	131·2	79·4	66·0	44·1	66·9	+·0009	−·0001	− 0·1	− 0·9	·0000
07	131·3	80·0		43·8		+·0010	−·0001	− 0·1	− 0·9	·0000
12	131·1	79·8		43·8		+·0010	−·0001	− 0·4	− 0·9	·0000
17	131·3	79·7		43·5		+·0010	−·0001	− 0·3	− 0·9	·0000
22	131·3	79·7		43·5		+·0010	−·0001	− 0·4	− 0·9	·0000
27	131·3	79·7		43·5		+·0010	−·0001	− 0·5	− 0·9	·0000
32	131·2	79·7		43·5		+·0011	−·0001	− 0·6	− 1·0	·0000
37	131·7	79·7		43·5		+·0011	−·0001	− 0·4	− 1·0	·0000
42	131·9	79·7		43·5		+·0011	−·0001	− 0·3	− 1 0	·0000
47	131·8	79·8		43·5		+·0011	−·0001	− 0·4	− 1·0	·0000
52	131·6	79·2		43·5		+·0011	−·0001	− 0·7	− 1·0	·0000
57	131·9	79·2		43·5		+·0011	−·0001	− 0·6	− 1·0	·0000
01 02	131·3	78·7	66·5	43·5	66·8	+·0010	−·0001	− 1·1	− 0·9	·0000
07	131·4	78·2		43·5		+·0010	−·0001	− 0·9	− 0·9	·0000
12	131·5	77·7		43·5		+·0010	−·0001	− 0·8	− 0·9	·0000
17	131·7	77·3		43·5		+·0010	−·0001	− 0·6	− 0·9	·0000
22	131·8	77·6		43·5		+·0011	−·0001	− 0·6	− 1·0	·0000
27	131·6	77·0		43·5		+·0010	−·0001	− 0·6	− 0·9	·0000
32	131·4	76·9		43·5		+·0011	−·0001	− 0·8	− 1·0	·0000
37	131·3	76·5		43·5		+·0011	−·0001	− 0·8	− 1·0	·0000
42	131·6	75·6		43·5		+·0010	−·0001	− 0·6	− 0·9	·0000
47	132·1	75·5		43·5		+·0010	−·0001	− 0·1	− 0·9	·0000
52	132·1	75·3		43·2		+·0010	−·0001	− 0·1	− 0·9	·0000
57	131·8	74·6		43·2		+·0010	−·0001	− 0·3	− 0·9	·0000
02 02	131·9	74·8	67·5	43·2	67·2	+·0010	−·0001	− 0·2	− 0·9	·0000
07	131·9	74·3		43·2		+·0010	−·0001	− 0·1	− 0·9	·0000
12	132·0	73·9		43·2		+·0010	−·0001	+ 0·1	− 0·9	·0000
17	132·0	74·0		43·1		+·0010	−·0001	+ 0·2	− 0·9	·0000
22	132·0	73·2		43·1		+·0010	−·0001	+ 0·3	− 0·9	·0000
27	132·0	72·9		43·1		+·0010	−·0001	+ 0·4	− 0·9	·0000
32	131·8	72·5		43·1		+·0009	−·0001	+ 0·4	− 0·9	·0000
37	131·7	72·4		42·8		+·0009	−·0002	+ 0·4	− 0·9	−·0001
42	131·2	71·8		42·7		+·0009	−·0002	+ 0·2	− 0·9	−·0001
47	131·0	71·9		42·7		+·0009	−·0002	+ 0·1	− 0·9	−·0001
52	130·9	72·2		42·7		+·0010	−·0002	+ 0·2	− 1·0	−·0001
57	130·6	72·5		42·7		+·0010	−·0002	+ 0·1	− 1·0	−·0001
03 02	130·2	73·0	68·1	42·7	67·4	+·0011	−·0002	− 0·1	− 1·1	−·0001
07	130·0	72·9		42·6		+·0011	−·0002	0·0	− 1·1	−·0001
12	129·4	72·5		42·6		+·0011	−·0002	− 0·1	− 1·1	−·0001
17	128·9	72·3		42·5		+·0011	−·0002	− 0·3	− 1·1	−·0001
22	128·5	71·8		42·3		+·0011	−·0002	− 0·3	− 1·1	−·0001
27	128·1	71·1		42·3		+·0010	−·0002	− 0·4	− 1·0	−·0001
32	127·9	70·3		42·2		+·0010	−·0002	− 0·3	− 1·0	−·0001
37	127·9	70·1		42·2		+·0010	−·0002	0·0	− 1·0	−·0001
42	128·0	70·0		42·1		+·0010	−·0002	+ 0·3	− 1·0	−·0001
47	127·4	68·5		42·0		+·0009	−·0002	+ 0·1	− 0·9	−·0001
52	127·2	67·7		41·9		+·0008	−·0002	+ 0·2	− 0·9	−·0001
57	126·7	67·0		41·9		+·0008	−·0002	+ 0·1	− 0·9	−·0001
04 02	126·8	66·3	68·5	41·7	67·6	+·0007	−·0002	+ 0·4	− 0·8	−·0001
07	126·8	66·1		41·7		+·0007	−·0002	+ 0·6	− 0·8	−·0001
12	126·3	65·4		41·7		+·0006	−·0002	+ 0·6	− 0·7	−·0002
17	126·2	64·9		41·7		+·0005	−·0002	+ 0·7	− 0·6	−·0002
22	126·1	64·8		41·7		+·0005	−·0002	+ 0·1	− 0·6	−·0002
27	125·4	64·5		41·7		+·0005	−·0002	+ 0·6	− 0·6	−·0002
32	125·2	65·0		41·7		+·0005	−·0002	+ 0·7	− 0·6	−·0002
37	124·5	65·0		41·7		+·0005	−·0002	+ 0·4	− 0·6	−·0002

1843. Toronto. July 20.

OBSERVATIONS OF THE MAGNETOMETERS. The Declination was observed 2m. before, and the V. F. 1m. after the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
20 04 42	124·1	64·7		41·6		+·0005	−·0002	+ 0·4	− 0·6	−·0002
47	123·6	64·6		41·6		+·0005	−·0002	+ 0·2	− 0·6	−·0002
52	123·2	65·1		41·5		+·0005	−·0002	+ 0·2	− 0·6	−·0002
57	122·6	65·8		41·5		+·0006	−·0002	0·0	− 0·7	−·0002
05 02	122·5	65·8	68·8	41·5	68·0	+·0005	−·0002	+ 0·1	− 0·6	−·0002
07	121·5	66·6		41·5		+·0006	−·0002	− 0·4	− 0·7	−·0002
12	121·4	66·7		41·5		+·0006	−·0002	− 0·2	− 0·7	−·0002
17	120·7	67·0		41·5		+·0006	−·0002	− 0·6	− 0·7	−·0002
22	120·5	67·7		41·5		+·0006	−·0002	− 0·5	− 0·7	−·0002
27	120·2	68·4		41·5		+·0006	−·0002	− 0·5	− 0·7	−·0002
32	120·4	68·5		41·5		+·0007	−·0002	− 0·1	− 0·8	−·0001
37	119·3	69·0		41·5		+·0008	−·0002	− 0·7	− 0·9	−·0001
42	119·1	69·5		41·7		+·0006	−·0002	− 0·6	− 0·7	−·0002
47	119·0	70·0		41·8		+·0006	−·0002	− 0·6	− 0·7	−·0002
52	118·4	70·3		41·8		+·0006	−·0002	− 0·8	− 0·7	−·0002
57	118·1	70·8		41·8		+·0007	−·0002	− 0·8	− 0·8	−·0001
06 02	118·2	71·4	69·0	42·0	68·2	+·0007	−·0002	− 0·5	− 0·8	−·0001
07	118·0	71·6		42·0		+·0006	−·0002	− 0·5	− 0·7	−·0002
12	117·8	71·0		42·0		+·0005	−·0002	− 0·6	− 0·6	−·0002
17	117·7	72·0		42·0		+·0006	−·0002	− 0·4	− 0·7	−·0002
22	117·6	73·5		41·8		+·0007	−·0002	− 0·4	− 0·8	−·0001
27	117·0	73·8		42·0		+·0007	−·0002	− 0·6	− 0·8	−·0001
32	117·0	74·0		42·0		+·0006	−·0002	− 0·6	− 0·7	−·0002
37	117·1	74·0		42·1		+·0006	−·0002	− 0·4	− 0·7	−·0002
42	117·0	74·8		42·1		+·0006	−·0002	− 0·3	− 0·7	−·0002
47	116·8	75·3		42·3		+·0006	−·0002	− 0·3	− 0·7	−·0002
52	117·8	75·1		42·1		+·0006	−·0002	+ 0·6	− 0·7	−·0002
57	117·6	74·9		42·7		+·0005	−·0002	+ 0·6	− 0·6	−·0002
07 02	116·2	75·0	68·8	42·5	68·3	+·0004	−·0002	− 0·3	− 0·5	−·0002
07	115·8	75·9		42·5		+·0005	−·0002	− 0·6	− 0·6	−·0002
12	115·7	75·6		42·8		+·0004	−·0002	− 0·7	− 0·5	−·0002
17	115·8	75·3		42·8		+·0003	−·0002	− 0·7	− 0·4	−·0002
22	115·7	76·0		42·8		+·0003	−·0002	− 0·8	− 0·4	−·0002
27	115·5	76·3		42·9		+·0003	−·0002	− 1·0	− 0·4	−·0002
32	115·9	76·5		43·0		+·0003	−·0002	− 0·7	− 0·4	−·0002
37	116·0	77·0		43·0		+·0003	−·0002	− 0·7	− 0·4	−·0002
42	116·1	78·0		43·0		+·0004	−·0002	− 0·7	− 0·5	−·0002
47	116·2	78·0		43·2		+·0003	−·0002	− 0·6	− 0·4	−·0002
52	116·5	78·0		43·2		+·0003	−·0002	− 0·5	− 0·4	−·0002
57	116·5	78·0		43·2		+·0002	−·0002	− 0·5	− 0·3	−·0002
08 02	116·8	78·0	69·0	43·2	68·3	+·0002	−·0002	− 0·4	− 0·3	−·0002
07	116·9	77·9		43·2		+·0001	−·0002	− 0·4	− 0·2	−·0002
12	117·0	79·1		43·2		+·0003	−·0002	− 0·4	− 0·3	−·0002
17	117·0	79·3		43·4		+·0004	−·0002	− 0·4	− 0·3	−·0002
22	117·0	79·0		43·4		+·0001	−·0002	− 0·4	− 0·2	−·0002
27	117·1	79·8		43·5		+·0002	−·0002	− 0·4	− 0·3	−·0002
32	117·2	80·5		43·5		+·0002	−·0002	− 0·4	− 0·3	−·0002
37	117·8	81·0		43·5		+·0002	−·0002	− 0·1	− 0·3	−·0002
42	118·0	81·1		43·5		+·0002	−·0002	0·0	− 0·3	−·0002
47	118·0	81·1		43·5		+·0001	−·0002	0·0	− 0·2	−·0002
52	118·2	81·4		43·5		+·0001	−·0002	+ 0·1	− 0·2	−·0002
57	118·4	82·7		43·5		+·0002	−·0002	+ 0·1	− 0·3	−·0002
09 02	118·8	83·7	69·3	43·6	68·5	+·0003	−·0002	+ 0·4	− 0·4	−·0002
07	118·9	83·9		43·6		+·0003	−·0002	+ 0·4	− 0·4	−·0002
12	119·1	84·1		43·6		+·0003	−·0002	+ 0·4	− 0·4	−·0002
17	119·3	84·2		43·6		+·0003	−·0002	+ 0·4	− 0·4	−·0002
22	119·7	84·9		43·6		+·0004	−·0002	+ 0·6	− 0·5	−·0002
27	119·9	84·7		43·4		+·0004	−·0002	+ 0·6	− 0·5	−·0002
32	120·1	84·2		43·4		+·0004	−·0002	+ 0·7	− 0·5	−·0002
37	120·2	84·1		43·4		+·0004	−·0002	+ 0·7	− 0·5	−·0002
42	120·7	84·5		43·4		+·0003	−·0002	+ 0·9	− 0·4	−·0002
47	121·1	85·8		43·4		+·0005	−·0002	+ 1·1	− 0·6	−·0002
52	121·8	85·9		43·2		+·0006	−·0002	+ 1·5	− 0·7	−·0002
57	121·9	85·1		43·1		+·0006	−·0002	+ 1·5	− 0·7	−·0002

CAPE OF GOOD HOPE, 1843. JULY 24—26.

MEAN MONTHLY READINGS OF THE MAGNETOMETERS.

Mean Göttingen Time.	Declination.	H. F. at 56°·5.	V. F. at 56°·6.	Mean Göttingen Time.	Declination.	H. F. at 56°·5.	V. F. at 56°·6.
Hours.	Sc. Div.	Sc. Div.	Sc. Div.	Hours.	Sc. Div.	Sc. Div.	Sc. Div.
00	52·4	56·3	39·4	12	54·5	55·9	39·6
01	53·4	55·9	39·3	13	54·7	56·3	39·6
02	54·1	56·1	39·8	14	55·1	56·5	39·5
03	54·1	57·0	40·4	15	55·2	56·8	39·5
04	53·6	57·6	41·1	16	55·5	57·1	39·3
05	53·2	57·5	41·3	17	55·6	57·1	39·3
06	53·2	56·3	41·3	18	55·8	57·4	38·8
07	53·1	55·4	41·4	19	56·2	58·4	38·7
08	53·3	54·5	41·3	20	54·9	59·6	40·2
09	53·2	54·4	41·1	21	52·6	59·4	41·7
10	53·4	54·5	40·8	22	51·3	58·7	41·5
11	53·9	55·4	40·1	23	51·4	57·2	40·1

Coefficients (A), Approximate Absolute Values (B.)

(A)
- Declin. a = 0′·751
- H. F. k = ·00018, q = ·00028
- V. F. k = ·00018, q = ·00005

(B) Approx.
- ψ = 29° 05′
- X = 4·46
- Y = 6·00
- θ = − 53° 14′
- ϕ = 7·50

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	″	Parts of Total Force.
24 09 02	54·1	43·6	58·6	44·7	58·7	−·0014	+·0008	+ 0·7	+ 3·6	·0000
07	54·0	43·1		44·7		−·0014	+·0008	+ 0·6	+ 3·6	·0000
12	54·0	42·9		44·7		−·0015	+·0008	+ 0·6	+ 3·8	·0000
17	54·0	42·9		44·6		−·0015	+·0008	+ 0·5	+ 3·8	·0000
22	54·2	42·5		44·6		−·0016	+·0008	+ 0·7	+ 4·0	−·0001
27	54·6	42·3		44·9		−·0016	+·0008	+ 1·0	+ 4·0	−·0001
32	54·1	41·3		46·0		−·0018	+·0010	+ 0·6	+ 4·6	·0000
37	53·0	40·5		46·8		−·0019	+·0012	− 0·2	+ 5·1	+·0001
42	52·4	40·8		47·6		−·0019	+·0013	− 0·7	+ 5·3	+·0002
47	51·2	41·9		48·1		−·0017	+·0014	− 1·7	+ 5·1	+·0003
52	50·1	43·3		48·3		−·0014	+·0015	− 2·5	+ 4·8	+·0005
57	49·0	45·2		48·1		−·0011	+·0014	− 3·3	+ 4·1	+·0005
10 02	48·4	46·9	58·7	46·9	58·7	−·0008	+·0012	− 3·8	+ 3·3	+·0005
07	48·1	48·0		46·1		−·0006	+·0011	− 4·0	+ 2·8	+·0005
12	48·0	49·3		44·8		−·0004	+·0009	− 4·1	+ 2·1	+·0004
17	48·3	49·3		44·1		−·0004	+·0007	− 3·9	+ 1·8	+·0003
22	48·7	49·4		43·5		−·0004	+·0006	− 3·7	+ 1·7	+·0002
27	48·7	50·1		42·6		−·0003	+·0005	− 3·7	+ 1·3	+·0002
32	49·0	—		—		—	—	− 3·5	—	—
11 02	54·1	52·8	58·5	36·0	58·5	+·0001	−·0007	− 0·2	− 1·3	−·0004
12 02	55·3	53·4	58·1	36·0	58·1	·0000	−·0006	− 0·6	− 1·0	−·0004
13 02	55·1	52·3	57·8	38·2	57·8	−·0004	−·0002	− 0·3	+ 0·3	−·0003
14 02	55·0	53·3	57·5	38·4	57·5	−·0003	−·0001	+ 0·1	+ 0·3	−·0002
15 02	55·0	53·3	57·3	38·4	57·5	−·0004	−·0001	+ 0·2	+ 0·5	−·0002
16 02	56·0	56·6	56·9	36·7	57·2	·0000	−·0004	+ 0·4	− 0·7	−·0003
17 02	56·0	56·5	56·7	37·1	56·9	−·0001	−·0004	+ 0·3	− 0·5	−·0003
18 02	56·2	58·1	56·7	36·4	56·8	+·0002	−·0004	+ 0·3	− 1·0	−·0002
19 02	58·0	60·2	56·5	36·0	56·6	+·0003	−·0005	+ 1·4	− 1·3	−·0002
20 02	56·9	63·5	56·3	38·0	56·4	+·0007	−·0004	+ 1·5	− 1·2	·0000
21 02	53·1	57·4	56·2	44·7	56·4	−·0005	−·0005	+ 0·4	0·0	−·0005
22 02	53·7	49·9	56·0	46·2	56·5	−·0017	−·0009	+ 1·8	+ 1·3	−·0012
23 02	51·2	46·2	56·3	46·1	56·5	−·0020	+·0011	− 0·2	+ 5·1	·0000
32	51·9	41·9		46·3		−·0027	+·0012	0·0	+ 6·4	−·0002
37	52·0	41·1		46·7		−·0028	+·0013	0·0	+ 6·8	−·0002
42	51·5	40·5		47·2		−·0029	+·0014	− 0·5	+ 7·1	−·0001
47	51·2	39·9		47·6		−·0030	+·0014	− 0·7	+ 7·3	−·0002
52	51·5	39·8		47·6		−·0030	+·0015	− 0·5	+ 7·4	−·0001
57	51·9	39·0		47·7		−·0031	+·0015	− 0·3	+ 7·6	−·0001

1843.
Cape of Good Hope.

July 25.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
25 00 02	51·9	38·4	56·5	48·0	56·7	−·0032	+·0016	− 0·4	+ 7·9	−·0001
07	51·8	37·8		48·3		−·0033	+·0016	− 0·5	+ 8·1	−·0002
12	51·9	37·5		48·7		−·0034	+·0017	− 0·5	+ 8·4	−·0001
17	51·9	37·3		48·7		−·0034	+·0017	− 0·5	+ 8·4	−·0001
22	51·5	36·8		48·9		−·0035	+·0017	− 0·9	+ 8·6	−·0002
27	51·5	37·2		49·1		−·0034	+·0018	− 1·0	+ 8·6	−·0001
32	51·5	37·5		49·3		−·0033	+·0018	− 1·1	+ 8·4	·0000
37	51·9	37·8		48·4		−·0033	+·0017	− 0·8	+ 8·2	−·0001
42	52·1	37·6		48·1		−·0033	+·0016	− 0·8	+ 8·1	−·0002
47	52·3	37·0		48·1		−·0034	+·0016	− 0·6	+ 8·2	−·0002
52	52·1	36·7		48·5		−·0034	+·0017	− 0·8	+ 8·4	−·0001
57	52·0	37·0		48·5		−·0034	+·0017	− 1·0	+ 8·4	−·0001
01 02	52·3	37·8	56·7	47·8	56·8	−·0032	+·0016	− 0·8	+ 7·9	−·0001
07	52·8	38·0		47·5		−·0032	+·0015	− 0·5	+ 7·7	−·0002
12	52·9	37·8		46·9		−·0032	+·0014	− 0·5	+ 7·6	−·0002
17	53·0	36·8		46·8		−·0034	+·0014	− 0·5	+ 7·9	−·0003
22	53·8	36·0		46·8		−·0036	+·0013	− 0·2	+ 8·1	−·0005
27	54·0	36·1		47·3		−·0035	+·0014	− 0·2	+ 8·1	−·0004
32	53·1	36·8		47·6		−·0034	+·0015	− 0·5	+ 8·1	−·0003
37	53·1	37·4		47·6		−·0033	+·0015	− 0·5	+ 7·9	−·0002
42	52·9	38·2		47·4		−·0032	+·0014	− 0·8	+ 7·6	−·0002
47	52·4	38·2		47·0		−·0032	+·0013	− 1·1	+ 7·4	−·0003
52	52·7	38·0		46·6		−·0032	+·0013	− 1·0	+ 7·4	−·0003
57	52·9	36·9		46·9		−·0034	+·0013	− 0·8	+ 7·7	−·0004
02 02	52·0	36·3	56·7	48·0	57·0	−·0035	+·0015	− 1·6	+ 8·2	−·0003
07	51·0	35·9		48·6		−·0036	+·0016	− 2·3	+ 8·6	−·0003
12	50·9	35·1		48·8		−·0037	+·0016	− 2·4	+ 8·7	−·0003
17	50·9	34·6		48·8		−·0038	+·0016	− 2·4	+ 8·9	−·0003
22	51·0	33·8		49·1		−·0040	+·0017	− 2·3	+ 9·4	−·0003
27	51·0	33·2		49·6		−·0041	+·0017	− 2·3	+ 9·6	−·0004
32	50·4	32·8		50·1		−·0042	+·0018	− 2·8	+ 9·9	−·0003
37	50·0	32·4		50·7		−·0043	+·0019	− 3·1	+10·2	−·0003
42	49·9	32·7		50·7		−·0042	+·0019	− 3·2	+10·1	−·0003
47	50·0	32·8		50·4		−·0042	+·0018	− 3·1	+ 9·9	−·0003
52	50·2	32·6		49·6		−·0043	+·0017	− 2·9	+ 9·9	−·0004
57	51·0	32·2		49·2		−·0043	+·0016	− 2·3	+ 9·7	−·0005
03 02	51·2	32·1	56·9	49·0	57·1	−·0044	+·0016	− 2·2	+ 9·9	−·0005
07	51·5	31·8		49·0		−·0045	+·0016	− 2·0	+10·1	−·0006
12	51·1	31·7		49·3		−·0045	+·0016	− 2·2	+10·1	−·0006
17	50·8	32·1		49·3		−·0044	+·0016	− 2·4	+ 9·9	−·0005
22	50·2	31·8		49·4		−·0045	+·0016	− 2·8	+10·1	−·0006
27	49·9	31·6		50·0		−·0045	+·0017	− 3·0	+10·2	−·0005
32	49·3	31·8		50·0		−·0045	+·0017	− 3·4	+10·2	−·0005
37	49·2	31·9		49·9		−·0045	+·0017	− 3·5	+10·2	−·0005
42	49·1	31·9		49·8		−·0045	+·0016	− 3·5	+10·1	−·0006
47	49·0	31·4		50·1		−·0046	+·0017	− 3·5	+10·4	−·0006
52	48·7	31·3		50·1		−·0046	+·0017	− 3·8	+10·4	−·0006
57	49·1	32·0		49·1		−·0045	+·0015	− 3·4	+ 9·9	−·0006
04 02	49·8	33·2	57·0	48·2	57·3	−·0043	+·0013	− 2·9	+ 9·2	−·0007
07	50·2	32·7		47·7		−·0043	+·0012	− 2·6	+ 9·1	−·0008
12	50·2	31·0		49·0		−·0046	+·0015	− 2·5	+10·1	−·0007
17	49·4	31·0		49·0		−·0046	+·0014	− 3·1	+ 9·9	−·0007
22	49·5	30·9		48·8		−·0046	+·0014	− 3·0	+ 9·9	−·0007
27	49·5	30·1		48·8		−·0047	+·0014	− 2·9	+10·1	−·0008
32	49·2	30·0		49·2		−·0047	+·0015	− 3·2	+10·2	−·0007
37	48·9	29·9		49·2		−·0047	+·0015	− 3·4	+10·2	−·0007
42	48·9	31·0		48·9		−·0045	+·0014	− 3·3	+ 9·7	−·0007
47	48·8	31·4		48·2		−·0044	+·0013	− 3·4	+ 9·4	−·0007
52	48·9	31·0		47·6		−·0045	+·0012	− 3·3	+ 9·4	−·0008
57	49·9	30·1		47·6		−·0046	+·0012	− 2·5	+ 9·6	−·0009
05 02	49·1	29·2	57·6	48·3	57·7	−·0048	+·0013	− 3·1	+10·1	−·0009
07	48·3	28·5		49·0		−·0049	+·0014	− 3·7	+10·4	−·0009

1843.
Cape of Good Hope.

July 25.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.			Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D.	H.	M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
25	05	12	47·9	27·3		49·7		−·0051	+·0016	− 4·0	+11·0	−·0008
		17	47·3	26·1		50·7		−·0053	+·0018	− 4·4	+11·7	−·0007
		22	46·9	25·4		50·7		−·0054	+·0018	− 4·7	+11·9	−·0008
		27	47·3	24·6		50·6		−·0055	+·0017	− 4·4	+11·9	−·0009
		32	47·5	23·9		51·3		−·0056	+·0019	− 4·3	+12·4	−·0008
		37	47·0	24·2		51·3		−·0055	+·0019	− 4·7	+12·2	−·0007
		42	47·4	25·0		50·6		−·0054	+·0018	− 4·4	+11·9	−·0008
		47	47·9	25·4		49·7		−·0053	+·0016	− 4·0	+11·4	−·0009
		52	48·0	25·7		49·7		−·0052	+·0016	− 3·9	+11·2	−·0008
		57	47·5	25·9		49·5		−·0051	+·0016	− 4·3	+11·0	−·0008
	06	02	47·6	26·0	57·8	49·0	58·0	−·0051	+·0015	− 4·2	+10·9	−·0009
		07	47·6	26·3		49·0		−·0050	+·0015	− 4·2	+10·7	−·0008
		12	47·1	26·5		49·1		−·0050	+·0015	− 4·6	+10·7	−·0008
		17	46·7	27·0		49·1		−·0049	+·0015	− 4·9	+10·6	−·0008
		22	46·3	27·2		48·9		−·0048	+·0014	− 5·2	+10·2	−·0008
		27	45·9	27·2		49·2		−·0048	+·0015	− 5·5	+10·4	−·0008
		32	45·1	27·2		49·1		−·0048	+·0015	− 6·1	+10·4	−·0008
		37	45·1	27·2		49·1		−·0048	+·0015	− 6·0	+10·4	−·0008
		42	45·1	26·7		48·5		−·0048	+·0014	− 6·0	+10·2	−·0008
		47	45·9	26·0		47·7		−·0049	+·0012	− 5·4	+10·1	−·0010
		52	47·0	25·6		48·5		−·0050	+·0014	− 4·6	+10·6	−·0009
		57	45·8	26·0		48·9		−·0049	+·0014	− 5·5	+10·4	−·0009
	07	02	45·0	26·9	58·0	48·8	58·1	−·0047	+·0014	− 6·1	+10·1	−·0008
		07	44·6	27·5		48·4		−·0046	+·0013	− 6·4	+ 9·7	−·0008
		12	44·6	28·0		47·9		−·0045	+·0012	− 6·4	+ 9·4	−·0008
		17	45·0	27·7		47·2		−·0045	+·0011	− 6·2	+ 9·2	−·0009
		22	45·5	26·5		47·2		−·0047	+·0011	− 5·8	+ 9·6	−·0010
		27	45·6	25·5		47·9		−·0049	+·0012	− 5·7	+10·1	−·0008
		32	45·4	25·2		48·0		−·0049	+·0013	− 5·9	+10·2	−·0009
		37	45·6	24·7		48·0		−·0050	+·0013	− 5·7	+10·4	−·0010
		42	45·5	25·2		48·0		−·0049	+·0013	− 5·8	+10·2	−·0009
		47	45·5	25·4		47·9		−·0049	+·0013	− 5·9	+10·2	−·0009
		52	45·9	25·4		47·5		−·0049	+·0012	− 5·6	+10·1	−·0010
		57	46·0	25·3		47·4		−·0049	+·0012	− 5·5	+10·1	−·0010
	08	02	45·9	25·4	57·9	47·4	58·1	−·0048	+·0012	− 5·6	+ 9·9	−·0009
		07	45·6	25·8		47·1		−·0048	+·0011	− 5·8	+ 9·7	−·0010
		12	45·8	26·3		46·5		−·0047	+·0010	− 5·6	+ 9·4	−·0010
		17	46·4	26·7		46·2		−·0046	+·0010	− 5·2	+ 9·2	−·0010
		22	46·0	26·3		46·2		−·0047	+·0010	− 5·5	+ 9·4	−·0010
		27	45·6	26·7		46·8		−·0046	+·0011	− 5·8	+ 9·4	−·0009
		32	45·0	28·0		46·2		−·0044	+·0010	− 6·2	+ 8·9	−·0009
		37	45·0	28·4		45·9		−·0043	+·0009	− 6·2	+ 8·6	−·0010
		42	45·0	28·2		46·1		−·0043	+·0010	− 6·2	+ 8·7	−·0009
		47	44·5	28·0		46·0		−·0044	+·0010	− 6·5	+ 8·9	−·0009
		52	44·2	28·3		45·9		−·0043	+·0009	− 6 8	+ 8·6	−·0010
		57	44·0	28·6		45·9		−·0043	+ 0009	− 6·9	+ 8·6	−·0010
	09	02	43·8	28·9	57·8	45·9	58·1	−·0042	+·0009	− 7·1	+ 8·4	−·0009
		07	43·5	28·7		45·9		−·0043	+·0009	− 7·3	+ 8·6	−·0010
		12	43·3	29·0		45·8		−·0042	+·0009	− 7·4	+ 8·4	−·0009
		17	43·7	29·2		45·4		−·0042	+·0009	− 7·2	+ 8·4	−·0009
		22	44·3	29·6		44·8		−·0041	+·0008	− 6·8	+ 8·1	−·0010
		27	44·3	29·0		44·9		−·0042	+·0008	− 6·8	+ 8·2	−·0010
		32	44·7	28·1		44·8		−·0044	+·0008	− 6·5	+ 8·6	−·0011
		37	45·0	28·2		44·6		−·0044	+·0007	− 6·2	+ 8·4	−·0011
		42	45·5	29·2		44·1		−·0042	+·0007	− 5·9	+ 8·1	−·0011
		47	45·8	30·2		43·3		−·0040	+·0005	− 5·7	+ 7·4	−·0011
		52	46·0	30·2		43·0		−·0040	+·0005	− 5·6	+ 7·4	−·0011
		57	46·0	30·2		42·9		−·0040	+·0005	− 5·6	+ 7·4	−·0011
	10	02	45·9	30·7	57·7	42·8	57·9	−·0039	+·0004	− 5·6	+ 7·1	−·0011
		07	46·0	31·2		42·6		−·0039	+·0004	− 5·6	+ 7·1	−·0011
		12	46·0	32·2		42·2		−·0037	+·0003	− 5·6	+ 6·6	−·0011
		17	46 0	32·9		42·0		−·0036	+·0003	− 5·6	+ 6·4	−·0011

1843.
Cape of Good Hope.

July 25—26.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
25 10 22	45·8	32·8		41·6		−·0036	+·0003	− 5·9	+ 6·4	−·0011
27	46·0	33·5		41·5		−·0035	+·0003	− 5·7	+ 6·3	−·0011
32	45·8	34·2		42·1		−·0034	+·0004	− 5·9	+ 6·3	−·0010
37	44·7	34·5		42·6		−·0034	+·0005	− 6·8	+ 6·4	−·0009
42	44·2	35·0		42·2		−·0033	+·0004	− 7·1	+ 6·1	−·0009
47	44·8	35·7		41·3		−·0032	+·0003	− 6·8	+ 5·8	−·0010
52	45·7	35·9		40·8		−·0032	+·0002	− 6·1	+ 5·6	−·0010
57	45·7	35·9		40·8		−·0032	+·0002	− 6·2	+ 5·6	−·0010
11 02	45·0	35·6	57·7	41·3	57·8	−·0032	+·0003	− 6·7	+ 5·8	−·0010
07	44·6	35·7		41·3		−·0032	+·0003	− 7·1	+ 5·8	−·0010
12	44·7	36·4		40·9		−·0031	+·0002	− 7·0	+ 5·4	−·0010
17	44·8	37·0		40·6		−·0030	+·0002	− 7·0	+ 5·3	−·0009
22	45·1	37·0		40·2		−·0030	+·0001	− 6·8	+ 5·1	−·0010
27	45·5	37·0		39·9		−·0030	+·0001	− 6·5	+ 5·1	−·0010
32	45·8	37·0		39·6		−·0030	·0000	− 6·3	+ 4·9	−·0011
37	46·2	37·1		39·1		−·0030	−·0001	− 6·1	+ 4·8	−·0011
42	46·7	37·6		38·8		−·0029	−·0001	− 5·7	+ 4·6	−·0012
47	47·0	37·9		38·3		−·0029	−·0002	− 5·6	+ 4·4	−·0012
52	47·6	38·0		37·9		−·0029	−·0003	− 5·1	+ 4·3	−·0012
57	48·1	38·4		37·2		−·0028	−·0004	− 4·8	+ 4·0	−·0013
12 02	49·0	39·1	57·6	36·3	57·8	−·0027	−·0005	− 4·1	+ 3·6	−·0013
13 02	49·3	45·7	57·2	36·3	57·3	−·0017	−·0006	− 4·1	+ 1·8	−·0010
14 02	55·8	51·0	56·7	32·1	56·8	−·0009	−·0013	+ 0·5	− 0·7	−·0012
15 02	51·9	51·6	56·2	36·7	56·4	−·0010	−·0005	− 2·5	+ 0·8	−·0007
16 02	57·5	50·4	55·8	34·2	56·2	−·0014	−·0009	+ 1·5	+ 0·8	−·0011
17 02	53·7	52·1	55·7	37·4	55·9	−·0011	−·0004	− 1·4	+ 1·2	−·0006
18 02	54·8	52·7	55·4	37·3	55·8	−·0012	−·0003	− 0·8	+ 1·5	−·0006
19 02	54·9	53·9	55·1	38·6	55·6	−·0012	−·0004	− 1·0	+ 1·3	−·0007
20 02	55·2	55·6	54·9	39·9	55·4	−·0012	−·0001	+ 0·2	+ 1·8	−·0005
21 02	53·0	57·5	54·7	40·9	55·3	−·0009	−·0002	+ 0·3	+ 1·2	−·0004
22 02	51·9	55·9	54·7	41·9	55·4	−·0010	·0000	+ 0·5	+ 1·7	−·0004
23 02	53·0	55·7	54·8	40·3	55·3	−·0008	·0000	+ 1·2	+ 1·3	−·0003
26 00 02	49·0	39·1	57·6	36·3	57·8	−·0027	−·0005	− 4·1	+ 3·6	−·0014

1843.
Van Diemen Island.

July.

VAN DIEMEN ISLAND, 1843. JULY 24—25.

MEAN MONTHLY READINGS OF THE MAGNETOMETERS.

Mean Göttingen Time.	Declination.	H. F. at 48°·1.	V. F. (a) at 47°·7.	Mean Göttingen Time.	Declination.	H. F. at 48°·1.	V. F. (a) at 47°·7.
Hours.	Sc. Div.	Sc. Div.	Sc. Div.	Hours.	Sc. Div.	Sc. Div.	Sc. Div.
00	71·6	54·7	43·0	12	71·6	56·1	42·7
01	70·7	54·6	42·7	13	71·6	55·3	45·4
02	70·5	54·6	43·2	14	72·8	54·4	49·9
03	71·5	54·9	44·1	15	74·9	51·5	51·5
04	72·0	55·3	46·2	16	76·8	52·1	48·5
05	72·3	55·9	45·0	17	78·1	54·0	47·2
06	73·4	56·0	44·2	18	77·7	55·3	45·9
07	73·7	56·9	43·4	19	76·6	56·0	45·1
08	74·2	57·4	41·1	20	75·2	56·6	45·5
09	73·9	56·4	42·4	21	74·6	55·8	44·7
10	74·0	56·4	44·4	22	73·5	56·2	41·4
11	73·7	56·3	43·8	23	72·5	54·6	43·3

Coefficients (A), Approximate Absolute Values (B).

(A) Declin. $a = 0' \cdot 71$

H. F. $k = \cdot 000230$, $q = \cdot 000234$

V. F. $k = \cdot 000036$, $q = \cdot 00021$

(B) Approx. $\psi = -9° 55'$, $X = 4 \cdot 51$, $Y = 12 \cdot 86$, $\theta = -70° 37'$, $\phi = 13 \cdot 62$

(a) The V. F. Magnetometer having been newly adjusted in the early part of July, the means are taken from the 15th to the 31st instant.

1843.
Van Diemen Island.

July 24—25.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
						$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
24 22 02	72·2	—	—	—	—	—	—	− 0·9	—	—
23 02	64·8	40·5	44·6	—	—	—	—	− 5·5	—	—
07	62·4	—		—		—	—	− 7·1	—	—
12	61·8	—		—		—	—	− 7·5	—	—
17	63·6	—		—		—	—	− 6·2	—	—
22	64·3	—		—		—	—	− 5·6	—	—
27	64·0	—		—		—	—	− 5·8	—	—
32	64·0	—		—		—	—	− 5·7	—	—
37	63·9	—		—		—	—	− 5·8	—	—
42	64·2	—		—		—	—	− 5·5	—	—
47	64·5	—		—		—	—	− 5·2	—	—
52	63·0	—		—		—	—	− 6·2	—	—
57	63·1	—		—		—	—	− 6·1	—	—
25 00 02	63·6	—	—	—	—	—	—	− 5·7	—	—
07	65·1	—		—		—	—	− 4·6	—	—
12	65·9	—		—		—	—	− 4·0	—	—
17	66·7	—		—		—	—	− 3·3	—	—
22	65·3	—		—		—	—	− 4·3	—	—
27	64·5	—		—		—	—	− 4·8	—	—
32	63·0	—		—		—	—	− 5·8	—	—
37	59·4	—		—		—	—	− 8·3	—	—
42	55·8	—		—		—	—	−10·8	—	—
47	55·9	—		—		—	—	−10·7	—	—
52	57·0	—		—		—	—	− 9·8	—	—
57	56·9	—		—		—	—	− 9·8	—	—
01 02	57·5	—	—	—	—	—	—	− 9·3	—	—
07	55·9	—		—		—	—	−10·5	—	—
12	55·0	—		—		—	—	−11·2	—	—
17	54·5	—		—		—	—	−11·5	—	—
22	56·8	—		—		—	—	− 9·8	—	—
27	57·4	—		—		—	—	− 9·3	—	—
32	57·2	—		—		—	—	− 9·5	—	—
37	57·4	—		—		—	—	− 9·3	—	—
42	58·0	—		—		—	—	− 8·9	—	—
47	58·5	—		—		—	—	− 8·6	—	—
52	58·6	—		—		—	—	− 8·4	—	—
57	59·2	—		—		—	—	− 8·0	—	—
02 02	60·0	—	—	—	—	—	—	− 7·5	—	—
07	61·3	—		—		—	—	− 6·6	—	—
12	60·5	—		—		—	—	− 7·2	—	—
17	59·4	—		—		—	—	− 8·0	—	—
22	57·4	—		—		—	—	− 9·5	—	—
27	57·0	—		—		—	—	− 9·8	—	—
32	57·5	—		—		—	—	− 9·6	—	—
37	57·3	—		—		—	—	− 9·8	—	—
42	57·0	—		—		—	—	−10·0	—	—
47	57·1	—		—		—	—	−10·0	—	—
52	56·8	—		—		—	—	−10·3	—	—
57	57·8	—		—		—	—	− 9·6	—	—
03 02	59·9	—	46·2	—	44·2	—	—	− 8·2	—	—
07	60·6	—		—		—	—	− 7·7	—	—
12	61·1	—		—		—	—	− 7·5	—	—
17	61·2	—		—		—	—	− 7·4	—	—
22	62·3	—		—		—	—	− 6·7	—	—
27	62·3	—		—		—	—	− 6·7	—	—
32	61·6	—		—		—	—	− 7·2	—	—
37	60·8	—		—		—	—	− 7·8	—	—
42	59·4	—		—		—	—	− 8·8	—	—
47	57·8	48·3		65·9		−·0021	+·0001	−10·0	+ 2·4	−·0001
52	56·4	48·1		63·0		−·0021	−·0001	−11·1	+ 2·2	−·0003
57	55·7	47·9		62·8		−·0022	−·0001	−11·6	+ 2·3	−·0003

1843.
Van Diemen Island.

July 25.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta \psi$	$\Delta \theta$	$\frac{\Delta \phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
25 04 02	56·8	47·8	46·0	64·8	44·4	−·0022	·0000	−10·8	+ 2·4	−·0002
07	58·0	47·2		64·8		−·0024	·0000	− 9·9	+ 2·6	−·0003
12	58·4	46·3		65·3		−·0026	·0000	− 9·7	+ 2·8	−·0003
17	58·8	45·1		65·5		−·0029	·0000	− 9·4	+ 3·1	−·0003
22	58·2	44·0		65·8		−·0031	·0000	− 9·8	+ 3·4	−·0003
27	55·4	45·2		65·5		−·0028	·0000	−11·9	+ 3·0	−·0003
32	54·4	47·7		64·3		−·0023	·0000	−12·7	+ 2·5	−·0003
37	54·7	49·4		61·6		−·0019	−·0001	−12·5	+ 1·9	−·0003
42	56·6	50·6		60·1		−·0016	−·0002	−11·1	+ 1·5	−·0003
47	57·3	51·2		56·1		−·0015	−·0003	−10·5	+ 1·3	−·0004
52	56·2	51·2		53·1		−·0015	−·0004	−11·5	+ 1·2	−·0005
57	54·4	52·5		51·7		−·0012	−·0005	−12·7	+ 0·8	−·0006
05 02	54·5	54·4	46·0	49·7	44·4	−·0008	−·0005	−12·7	+ 0·3	−·0005
07	56·0	56·4		46·1		−·0004	−·0006	−11·7	− 0·2	−·0006
12	57·8	56·8		42·7		−·0003	−·0008	−10·4	− 0·6	−·0007
17	58·3	58·2		39·1		+·0001	−·0009	−10·1	− 1·1	−·0008
22	58·0	57·6		35·6		−·0001	−·0010	−10·4	− 1·0	−·0009
27	55·8	56·4		33·7		−·0004	−·0011	−12·1	− 0·8	·0000
32	53·8	55·7		35·8		−·0005	−·0010	−13·5	− 0·6	−·0009
37	54·4	55·8		37·9		−·0005	−·0009	−13·2	− 0·4	−·0009
42	55·4	55·7		39·9		−·0005	−·0008	−12·5	− 0·3	−·0008
47	56·2	55·6		41·1		−·0005	−·0008	−12·0	− 0·3	−·0008
52	58·2	56·3		42·9		−·0004	−·0007	−10·7	− 0·3	−·0007
57	60·3	55·4		43·0		−·0006	−·0007	− 9·2	− 0·1	−·0007
06 02	60·4	54·5	46·3	44·3	44·8	−·0008	−·0006	− 9·2	+ 0·2	−·0006
07	59·9	54·0		44·7		−·0009	−·0006	− 9·6	+ 0·3	−·0006
12	58·8	54·2		47·5		−·0009	−·0005	−10·4	+ 0·4	−·0005
17	60·3	55·0		48·4		−·0007	−·0004	− 9·3	+ 0·3	−·0004
22	62·0	55·7		48·3		−·0006	−·0004	− 8·2	+ 0·2	−·0004
27	63·2	57·4		47·8		−·0002	−·0005	− 7·3	− 0·3	−·0005
32	64·8	58·9		46·2		+·0001	−·0005	− 6·3	− 0·7	−·0004
37	65·9	60·4		42·9		+·0005	−·0006	− 5·5	− 1·2	−·0005
42	65·8	61·3		38·7		+·0007	−·0008	− 5·6	− 1·6	−·0006
47	64·3	61·5		36·3		+·0007	−·0009	− 6·6	− 1·7	−·0007
52	64·3	61·3		35·2		+·0006	−·0009	− 6·7	− 1·6	−·0007
57	64·2	61·1		35·2		+·0006	−·0009	− 6·8	− 1·6	−·0007
07 02	65·8	61·1	46·3	36·2	44·9	+·0006	−·0009	− 5·6	− 1·6	−·0007
07	67·6	60·0		38·5		+·0003	−·0008	− 4·4	− 1·2	−·0007
12	69·4	58·4		41·4		−·0001	−·0006	− 3·1	− 0·6	−·0005
17	70·8	58·0		45·1		−·0002	−·0005	− 2·1	− 0·3	−·0005
22	74·2	58·0		48·0		−·0002	−·0004	+ 0·2	− 0·2	−·0004
27	76·5	58·6		48·6		−·0001	−·0004	+ 1·8	− 0·3	−·0004
32	78·1	59·0		47·1		0000	−·0004	+ 2·9	− 0·4	−·0004
37	77·5	60·5		45·2		+·0003	−·0005	+ 2·5	− 0·9	−·0004
42	78·0	61·5		43·5		+·0006	−·0005	+ 2·8	− 1·2	−·0004
47	78·4	61·9		40·6		+·0006	−·0006	+ 3·0	− 1·3	−·0005
52	77·1	61·9		38·0		+·0006	−·0007	+ 2·1	− 1·4	−·0006
57	76·8	61·5		37·6		+·0005	−·0007	+ 1·8	− 1 3	−·0006
08 02	76·9	61·4	46·2	35·8	45·0	+·0005	−·0008	+ 1·9	− 1·4	−·0007
07	76·9	60·3		41·7		+·0003	−·0005	+ 1·9	− 0·9	−·0004
12	79·1	59·0		41·7		·0000	−·0006	+ 3·6	− 0·7	−·0005
17	81·9	58·6		45·5		−·0001	−·0004	+ 5·6	− 0·3	−·0004
22	82·4	56·9		47·0		−·0005	−·0004	+ 5·9	+ 0·1	−·0004
27	83·2	57·1		52·0		−·0004	−·0002	+ 6·5	+ 0·2	−·0002
32	86·4	56·7		52·0		−·0005	−·0002	+ 8·8	+ 0·3	−·0002
37	87·1	56·3		52·0		−·0006	−·0002	+ 9·3	+ 0·4	−·0002
42	87·2	56·0		56·0		−·0006	−·0001	+ 9·3	+ 0·6	−·0002
47	84·4	57·2		48·0		−·0003	−·0004	+ 7·4	− 0·1	−·0004
52	82·4	56·9		44·4		−·0004	−·0005	+ 6·1	− 0·1	−·0005
57	81·7	56·0		46·4		−·0006	−·0004	+ 5·6	+ 0·2	−·0004
09 02	81·8	55·3	46·2	47·8(a)	45·0	−·0007	−·0004	+ 5·6	+ 0·3	−·0004
07	81·6	55·2		52·3		−·0007	−·0002	+ 5·5	+ 0·6	−·0003

(a) Observed at 2 minutes.

1843.
Van Diemen Island.

July 25.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
						$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
25 09 12	85·2	55·2		52·8		−·0007	−·0002	+ 8·0	+ 0·6	−·0003
17	86·7	55·8		52·8		−·0006	−·0002	+ 9·1	+ 0·4	−·0002
22	87·0	56·2		53·2		−·0005	−·0002	+ 9·3	+ 0·3	−·0002
27	88·0	57·1		53·2		−·0003	−·0002	+10·0	+ 0·1	−·0002
32	85·7	57·7		46·5		−·0002	−·0004	+ 8·4	− 0·2	−·0004
37	84·2	57·2		46·2		−·0003	−·0005	+ 7·2	− 0·2	−·0005
42	83·5	56·3		46·5		−·0005	−·0004	+ 6·8	+ 0·1	−·0004
47	83·3	54·9		46·8		−·0008	−·0004	+ 6·6	+ 0·4	−·0004
52	82·0	54·5		47·9		−·0009	−·0004	+ 5·7	+ 0·6	−·0005
57	81·8	53·9		48·8		−·0011	−·0004	+ 5·6	+ 0·8	−·0005
10 02	81·8	53·1	46·0	50·9	45·2	−·0012	−·0003	+ 5·6	+ 1·0	−·0004
07	82·0	52·6		51·6		−·0014	−·0003	+ 5·7	+ 1·2	−·0004
12	82·0	51·5		53·4		−·0016	−·0002	+ 5·8	+ 1·5	−·0003
17	82·0	50·8		56·0		−·0018	−·0001	+ 5·8	+ 1·8	−·0003
22	82·5	51·0		57·2		−·0017	−·0001	+ 6·1	+ 1·7	−·0003
27	82·7	50·0		57·9		−·0020	·0000	+ 6·3	+ 2·2	−·0002
32	82·9	49·8		60·5		−·0020	+·0001	+ 6·5	+ 2·3	−·0001
37	82·8	50·8		60·9		−·0018	+·0001	+ 6·4	+ 1·9	−·0001
42	83·3	50·2		61·2		−·0019	+·0001	+ 6·8	+ 2·2	−·0001
47	83·5	49·7		62·1		−·0020	+·0001	+ 6·9	+ 2·3	−·0001
52	83·9	49·8		63·1		−·0020	+·0002	+ 7·2	+ 2·4	·0000
57	84·2	49·9		63·1		−·0020	+·0002	+ 7·5	+ 2·4	·0000
11 02	84·4	51·0	46·0	61·5	45·2	−·0017	+·0001	+ 7·6	+ 1·9	−·0001
07	84·0	51·0		58·9		−·0017	·0000	+ 7·5	+ 1·8	−·0002
12	82·6	51·0		57·3		−·0017	−·0001	+ 6·6	+ 1·7	−·0003
17	81·5	51·1		56·5		−·0017	−·0001	+ 5·9	+ 1·7	−·0003
22	80·5	51·4		54·1		−·0016	−·0002	+ 5·4	+ 1·5	−·0003
27	79·4	51·3		52·8		−·0017	−·0002	+ 4·7	+ 1·6	−·0004
32	78·0	52·0		50·4		−·0015	−·0003	+ 3·9	+ 1·3	−·0004
37	76·9	52·1		49·9		−·0015	−·0003	+ 3·1	+ 1·3	−·0004
42	76·2	52·9		49·4		−·0013	−·0003	+ 2·7	+ 1·1	−·0004
47	75·4	53·4		46·8		−·0012	−·0004	+ 2·3	+ 0·9	−·0005
52	74·8	53·2		46·1		−·0012	−·0004	+ 2·0	+ 0·9	−·0005
57	73·2	53·2		44·7		−·0012	−·0005	+ 1·0	+ 0·8	−·0006
12 02	71·9	53·1	45·6	44·0	45·0	−·0013	−·0005	+ 0·2	+ 0·9	−·0006
07	71·3	53·4		44·6		−·0012	−·0005	− 0·2	+ 0·8	−·0006
12	71·7	53·5		45·2		−·0012	−·0005	+ 0·1	+ 0·8	−·0006
17	72·8	54·2		45·0		−·0010	−·0005	+ 0·8	+ 0·6	−·0006
22	73·0	—		—		—	—	+ 1·0	—	—
13 02	71·9	51·2	45·4	51·0	45·2	−·0007	−·0003	+ 0·2	+ 0·4	−·0003

1843.
St. Helena.

July.

ST. HELENA, 1843. JULY 25.

MEAN MONTHLY READINGS OF THE MAGNETOMETERS.

Mean Göttingen Time.	Declination.	H. F. at 60°·8.	V. F. at 60°·7.	Mean Göttingen Time.	Declination.	H. F. at 60°·8.	V. F. at 60°·7.
Hours.	Sc. Div.	Sc. Div.	Sc. Div.	Hours.	Sc. Div.	Sc. Div.	Sc. Div.
00	11·5	71·7	45·9	12	11·9	64·9	46·4
01	11·7	72·0	46·0	13	12·0	65·1	46·2
02	11·5	70·9	46·1	14	12·0	65·2	46·1
03	11·6	69·7	46·3	15	12·1	65·7	46·1
04	11·7	68·7	46·5	16	12·3	65·9	45·9
05	11·1	67·9	46·6	17	12·5	66·8	46·0
06	10·2	67·0	46·6	18	12·8	66·2	45·8
07	10·4	65·6	46·7	19	13·4	66·3	45·8
08	10·7	64·9	46·8	20	14·8	66·9	45·7
09	11·0	64·9	46·7	21	13·6	67·8	45·6
10	11·3	64·6	46·6	22	11·7	69·2	45·5
11	11·6	64·7	46·5	23	10·9	71·0	45·5

Coefficients (A), Approximate Absolute Values (B.)

(A)
- Declin. $a = 0'·711$
- H. F. $k = ·00019$, $q = ·00028$
- V. F. $k = ·00085$, $q = ·00002$

(B) Approx.
- $\psi = 23° 15'$
- X = 5·57
- Y = 2·22
- $\theta = -21° 42'$
- $\phi = 6·00$

1843.
St. Helena.

July 25.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
25 00 02	15·1	74·1	60·0	42·9	59·9	+·0002	−·0026	+ 2·5	− 3·3	−·0002
01 02	6·6	71·1	60·0	42·9	59·9	−·0004	−·0026	− 3·7	− 2·6	−·0007
07	6·9	71·1		42·9		−·0004	−·0026	− 3·4	− 2·6	−·0007
12	6·9	70·9		42·8		−·0004	−·0027	− 3·4	− 2·7	−·0007
17	7·2	69·8		42·8		−·0006	−·0027	− 3·2	− 2·5	−·0009
22	7·2	69·0		42·9		−·0007	−·0026	− 3·1	− 2·1	−·0009
27	7·2	68·8		42·9		−·0007	−·0026	− 3·1	− 2·1	−·0009
32	6·5	68·9		42·9		−·0007	−·0026	− 3·7	− 2·1	−·0009
37	6·8	69·0		42·9		−·0007	−·0027	− 3·4	− 2·4	−·0010
42	6·8	69·2		42·9		−·0006	−·0027	− 3·4	− 2·5	−·0009
47	6·5	69·2		42·9		−·0006	−·0027	− 3·7	− 2·5	−·0009
52	6·6	69·0		42·9		−·0006	−·0027	− 3·4	− 2·5	−·0009
57	6·6	68·0		42·9		−·0008	−·0027	− 3·4	− 2·1	−·0010
02 02	6·0	67·3	60·0	42·9	60·0	−·0009	−·0027	− 4·0	− 2·1	−·0011
07	5·7	66·7		42·9		−·0010	−·0027	− 4·2	− 2·0	−·0012
12	5·4	65·8		42·9		−·0011	−·0027	− 4·4	− 1·9	−·0013
17	5·4	65·4		42·9		−·0012	−·0027	− 4·4	− 1·8	−·0014
22	5·4	65·0		42·9		−·0013	−·0028	− 4·4	− 1·8	−·0015
27	5·2	65·0		42·9		−·0012	−·0028	− 4·5	− 1·9	−·0014
32	5·0	64·9		42·9		−·0012	−·0028	− 4·7	− 1·9	−·0014
37	4·9	64·5		42·9		−·0013	−·0028	− 4·8	− 1·8	−·0015
42	4·9	64·9		42·9		−·0012	−·0028	− 4·8	− 1·9	−·0014
47	5·0	65·1		42·9		−·0011	−·0028	− 4·7	− 2·0	−·0013
52	5·0	65·1		42·9		−·0011	−·0029	− 4·7	− 2·1	−·0013
57	5·7	—		—		—		− 4·2	—	—
03 02	5·9	65·1	60·2	42·9	60·2	−·0011	−·0029	− 4·1	− 2·1	−·0013
07	5·8	64·8		42·9		−·0011	−·0029	− 4·2	− 2·1	−·0013
12	5·4	64·5		42·9		−·0011	−·0029	− 4·4	− 2·1	−·0013
17	5·1	64·6		43·0		−·0011	−·0028	− 4·7	− 2·0	−·0013
22	4·8	64·1		43·0		−·0011	−·0029	− 4·9	− 2·1	−·0013
27	4·5	64·0		43·0		−·0011	−·0029	− 5·1	− 2·1	−·0013
32	4·6	64·0		43·0		−·0011	−·0029	− 5·0	− 2·1	−·0013
37	4·6	63·9		43·0		−·0011	−·0029	− 5·1	− 2·1	−·0013
42	4·6	64·0		42·9		−·0010	−·0030	− 5·1	− 2·4	−·0013
47	4·6	63·9		42·9		−·0010	−·0030	− 5·1	− 2·4	−·0013
52	4·8	63·6		42·9		−·0011	−·0031	− 4·9	− 2·4	−·0014
57	4·9	63·8		42·9		−·0010	−·0031	− 4·9	− 2·5	−·0013
04 02	4·9	64·7	60·7	42·9	60·6	−·0008	−·0031	− 4·9	− 2·7	−·0011
07	5·1	64·2		42·9		−·0009	−·0031	− 4·7	− 2·6	−·0012
12	5·2	63·2		42·9		−·0011	−·0031	− 4·6	− 2·4	−·0014
17	5·1	63·2		42·9		−·0010	−·0031	− 4·6	− 2·5	−·0013
22	5·1	63·4		42·9		−·0010	−·0031	− 4·6	− 2·5	−·0013
27	5·0	63·1		42·9		−·0010	−·0031	− 4·6	− 2·5	−·0013
32	5·0	62·9		42·9		−·0011	−·0031	− 4·6	− 2·4	−·0014
37	4·7	62·8		42·9		−·0010	−·0032	− 4·7	− 2·6	−·0013
42	4·8	63·8		42·9		−·0008	−·0032	− 4·7	− 2·8	−·0011
47	4·5	64·0		42·9		−·0008	−·0032	− 4·8	− 2·8	−·0011
52	4·5	63·7		42·9		−·0008	−·0032	− 4·8	− 2·8	−·0011
57	4·9	63·2		42·9		−·0009	−·0032	− 4·4	− 2·7	−·0012
05 02	4·4	62·8	60·8	42·9	60·8	−·0010	−·0032	− 4·8	− 2·6	−·0013
07	4·1	62·1		42·9		−·0011	−·0032	− 4·9	− 2·5	−·0014
12	4·1	61·0		42·9		−·0013	−·0032	− 4·9	− 2·1	−·0015
17	3·9	60·2		42·9		−·0014	−·0032	− 5·0	− 2·1	−·0016
22	3·9	59·8		42·9		−·0015	−·0032	− 4·9	− 2·0	−·0017
27	3·9	59·0		42·9		−·0016	−·0032	− 4·9	− 1·9	−·0018
32	4·0	58·2		42·9		−·0018	−·0032	− 4·7	− 1·7	−·0020
37	4·0	58·2		42·9		−·0017	−·0032	− 4·7	− 1·8	−·0019
42	4·1	58·9		43·6		−·0016	−·0026	− 4·6	− 1·2	−·0017
47	4·2	59·2		43·6		−·0015	−·0026	− 4·4	− 1·3	−·0016
52	3·8	59·8		43·6		−·0014	−·0026	− 4·7	− 1·4	−·0016
57	3·8	59·8		43·6		−·0014	−·0026	− 4·7	− 1·4	−·0016
06 02	3·8	60·0	60·9	43·6	60·8	−·0013	−·0026	− 4·6	− 1·4	−·0015
07	4·5	60·2		43·6		−·0013	−·0026	− 4·1	− 1·4	−·0015

1843.
St. Helena.
July 25.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
						$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta \psi$	$\Delta \theta$	$\frac{\Delta \phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
25 06 12	4·2	60·7		43·6		−·0011	−·0026	− 4·3	− 1·8	−·0013
17	4·1	60·9		43·5		−·0013	−·0026	− 4·4	− 1·8	−·0013
22	3·8	61·0		43·5		−·0010	−·0026	− 4·7	− 1·9	−·0012
27	3·8	60·9		43·4		−·0010	−·0027	− 4·7	− 2·0	−·0012
32	3·3	60·7		43·4		−·0010	−·0027	− 5·0	− 1·9	−·0013
37	3·4	60·8		43·4		−·0010	−·0028	− 4·9	− 2·1	−·0012
42	3·4	60·2		43·4		−·0011	−·0028	− 4·9	− 2·0	−·0013
47	3·8	60·1		43·6		−·0011	−·0026	− 4·7	− 1·8	−·0013
52	4·4	60·0		43·6		−·0011	−·0026	− 4·3	− 1·8	−·0013
57	4·1	—		—		—	—	− 4·5	—	—
07 02	3·8	60·1	60·9	43·6	60·9	−·0010	−·0026	− 4·7	− 1·9	−·0012
07	3·8	60·2		43·6		−·0010	−·0026	− 4·7	− 1·9	−·0012
12	3·8	60·5		43·6		−·0009	−·0026	− 4·8	− 2·0	−·0011
17	3·8	60·3		43·6		−·0010	−·0026	− 4·8	− 1·9	−·0012
22	4·2	59·8		43·5		−·0011	−·0026	− 4·5	− 1·8	−·0013
27	4·6	59·2		43·6		−·0011	−·0026	− 4·2	− 1·8	−·0013
32	4·7	58·8		43·6		−·0012	−·0026	− 4·2	− 1·7	−·0014
37	4·9	58·7		43·7		−·0012	−·0026	− 4·1	− 1·7	−·0014
42	4·9	58·7		43·7		−·0012	−·0026	− 4·1	− 1·7	−.0014
47	4·8	58·6		43·7		−·0012	−·0026	− 4·2	− 1·7	−·0014
52	5·0	58·6		43·7		−·0012	−·0026	− 4·1	− 1·7	−·0014
57	5·1	—		—		—	—	− 4·0	—	—
08 02	5·1	58·4	60·9	43·7	60·9	−·0012	−·0026	− 4·0	− 1·7	−·0014
07	4·9	58·5		43·7		−·0012	−·0026	− 4·2	− 1·7	−·0014
12	4·9	58·9		43·7		−·0011	−·0026	− 4·2	− 1·8	−·0013
17	4·9	59·0		43·7		−·0011	−·0026	− 4·2	− 1·8	−·0013
22	5·0	58·8		43·7		−·0011	−·0026	− 4·2	− 1·8	−·0013
27	5·0	58·8		43·7		−·0011	−·0026	− 4·2	− 1·8	−·0013
32	4·9	59·5		43·7		−·0010	−·0026	− 4·3	− 1·9	−·0012
37	4·9	59·7		43·7		−·0010	−·0026	− 4·3	− 1·9	−·0012
42	4·9	59·2		43·7		−·0011	−·0026	− 4·3	− 1·8	−·0013
47	4·9	58·9		43·7		−·0011	−·0026	− 4·3	− 1·8	−·0013
52	4·9	58·9		43·7		−·0011	−·0026	− 4·4	− 1·8	−·0013
57	4·9	—		—		—	—	− 4·4	—	—
09 02	4·8	59·0	60·9	43·7	60·9	−·0011	−·0026	− 4·4	− 1·8	−·0013
07	4·7	59·0		43·6		−·0011	−·0026	− 4·5	− 1·8	−·0013
12	4·6	59·1		43·6		−·0011	−·0026	− 4·7	− 1·8	−·0013
17	4·8	59·8		43·6		−·0009	−·0026	− 4·5	− 2·0	−·0011
22	4·9	60·0		43·6		−·0009	−·0026	− 4·4	− 2·0	−·0011
27	5·1	59·3		43·6		−·0010	−·0026	− 4·3	− 1·9	−·0012
32	5·5	59·0		43·6		−·0011	−·0026	− 4·1	− 1·8	−·0013
37	5·7	59·2		43·6		−·0010	−·0026	− 4·0	− 1·9	−·0012
42	5·9	60·0		43·6		−·0009	−·0026	− 3·8	− 2·0	−·0011
47	5·8	61·1		43·6		−·0007	−·0026	− 3·9	− 2·1	−·0009
52	5·9	60·9		43·6		−·0007	−·0026	− 3·9	− 2·1	−·0009
57	5·9	60·8		43·6		−·0007	−·0026	− 3·9	− 2·1	−·0009
10 02	5·6	60·9	60·9	43·5	60·9	−·0007	−·0026	− 4·1	− 2·1	−·0009
32	5·2	63·0		43·5		−·0003	—·0026	− 4·5	− 2·7	−·0006
11 02	4·9	62·7	60·5	43·7	60·7	−·0005	−·0024	− 4·8	− 2·1	−·0007
32	5·6	65·0		43·6		−·0001	−·0025	− 4·4	− 2·8	−·0004
12 02	7·0	68·6	60·2	43·7	60·3	+·0005	−·0023	− 3·4	− 3·3	+·0001
32	7·5	70·9		43·6		+·0009	−·0023	− 3·1	− 3·8	+·0005
13 02	6·9	71·4	60·0	43·6	60·2	+·0010	−·0022	− 3·7	− 3·8	+·0006
32	7·4	72·5		43·6		+·0012	−·0022	− 3·2	− 4·0	+·0007
14 02	16·4	74·6	59·9	43·6	60·0	+·0010	−·0021	+ 3·1	− 3·7	+·0006
15 02	16·0	75·8	59·9	43·6	59·9	+·0012	−·0021	+ 2·8	− 3·9	+·0008

1843.
Toronto.

July 25.

For Mean Monthly Readings, *see* page 230.

TORONTO, 1843. JULY 25.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
25 14 02	127·0	52·9	73·5	52·6	73·2	−·0022	+·0010	+ 1·8	+ 2·7	+·0008
15 02	126·0	42·7	73·2	37·9	72·8	−·0015	−·0002	− 0·3	+ 1·1	−·0003
32	154·7	55·3		39·6		−·0002	·0000	+20·3	+ 0·2	·0000
37	150·3	47·5		37·4		−·0010	−·0002	+17·1	+ 0·7	−·0002
42	150·6	45·2		28·2		−·0012	−·0011	+20·2	+ 0·1	−·0001
47	153·2	59·9		24·1		+·0002	−·0015	+19·1	− 1·4	−·0014
52	140·7	52·3		24·5		−·0005	−·0014	+10·1	− 0·8	−·0013
57	142·8	51·4		24·4		−·0006	−·0014	+11·6	− 0·7	−·0014
16 02	142·8	48·6	73·0	24·7	73·3	−·0009	−·0014	+11·6	− 0·4	−·0014
07	136·5	67·4		24·5		+·0010	−·0014	+ 7·1	− 2·0	−·0012
12	128·5	69·9		24·4		+·0012	−·0014	+ 1·3	− 2·2	−·0012
17	120·0	64·2		26·3		+·0006	−·0012	− 4·8	− 1·5	−·0011
22	118·4	54·1		28·4		−·0004	−·0011	− 6·0	− 0·6	−·0011
27	124·4	53·3		31·3		−·0005	−·0008	− 1·6	− 0·2	−·0008
32	129·6	55·9		31·2		−·0002	−·0008	+ 2·0	− 0·5	−·0008
37	128·3	56·0		31·8		−·0002	−·0007	+ 1·1	− 0·4	−·0007
42	128·0	59·8		32·2		+·0002	−·0007	+ 0·9	− 0·8	−·0006
47	125·8	59·8		33·5		+·0002	−·0006	− 0·6	− 0·7	−·0006
52	125·0	60·3		34·5		+·0002	−·0005	− 1·2	− 0·6	−·0005
57	123·6	61·4		36·3		+·0003	−·0003	− 2·3	− 0·5	−·0003
17 02	123·5	62·2	72·8	37·0	73·0	+·0004	−·0003	− 2·3	− 0·6	−·0003
07	123·2	64·7		37·4		+·0006	−·0002	− 2·6	− 0·7	−·0002
12	123·2	64·4		38·1		+·0006	−·0002	− 2·6	− 0·7	−·0002
17	122·8	64·6		40·1		+·0006	·0000	− 3·0	− 0·5	·0000
22	122·5	64·0		40·7		+·0005	+·0001	− 3·2	− 0·3	+·0001
27	122·5	65·0		40·4		+·0006	+·0001	− 3·0	− 0·4	+·0001
32	122·6	66·2		40·2		+·0007	+·0001	− 3·2	− 0·5	+·0001
37	122·5	66·5		39·9		+·0008	·0000	− 3·3	− 0·7	·0000
42	122·1	66·1		39·9		+·0007	·0000	− 3·7	− 0·6	·0000
47	122·0	65·6		39·9		+·0006	·0000	− 3·7	− 0·5	·0000
52	122·5	66·1		39·9		+·0007	·0000	− 3·5	− 0·6	·0000
57	122·7	66·0		38·8		+·0007	−·0001	− 3·3	− 0·7	−·0001
18 02	123·2	65·5	72·2	39·1	73·0	+·0006	·0000	− 3·0	− 0·5	·0000
07	123·4	65·5		39·0		+·0006	−·0001	− 2·8	− 0·6	−·0001
12	122·4	64·9		38·8		+·0006	−·0001	− 3·5	− 0·6	−·0001
17	122·2	63·6		39·2		+·0004	·0000	− 3·6	− 0·3	·0000
22	122·6	63·9		38·8		+·0005	−·0001	− 3·3	− 0·5	−·0001
27	122·8	64·7		38·8		+·0006	−·0001	− 3·1	− 0·6	−·0001
19 02	123·5	61·5	71·6	36·7	72·5	+·0002	−·0003	− 2·3	− 0·4	−·0003

1843.
Toronto.

August.

TORONTO, 1843. AUGUST 3.

MEAN MONTHLY READINGS OF THE MAGNETOMETERS.

Mean Göttingen Time.	Declination.	H. F. at 72°·0.	V. F. at 71°·3.	Mean Göttingen Time.	Declination.	H. F. at 72°·0.	V. F. at 71°·3.
Hours.	Sc. Div.	Sc. Div.	Sc. Div.	Hours.	Sc. Div.	Sc. Div.	Sc. Div.
00	131·4	30·4	27·8	12	125·4	46·4	27·2
01	133·7	29·4	27·4	13	125·4	43·6	27·2
02	133·2	25·9	27·3	14	125·7	40·6	26·5
03	130·3	23·2	26·9	15	125·5	38·6	26·0
04	125·0	23·5	26·6	16	125·3	38·4	25·6
05	121·0	27·4	26·3	17	125·4	37·4	24·8
06	117·0	32·4	26·6	18	124·8	36·9	25·1
07	115·9	39·6	26·9	19	125·3	35·6	25·0
08	116·7	46·4	27·5	20	125·8	36·3	24·6
09	119·5	48·1	27·7	21	125·8	35·1	25·4
10	122·2	51·4	28·0	22	126·6	32·8	25·5
11	124·3	49·9	27·5	23	128·2	32·1	26·8

Coefficients (A), Approximate Absolute Values (B.)

(A) Declin. $a = 0'·721$

H. F. $k = ·000099$, $q = ·00027$

V. F. $k = ·000094$, $q = ·00007$

(B) Approx. $\psi = 1°\,24'$, $X = 3·54$, $Y = 13·44$, $\theta = 75°\,16'$, $\phi = 13·90$

1843. Toronto.

August 3.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours. $\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
3 14 02	127·2	19·1	72·6	30·3	72·0	−·0020	+·0003	+ 1·1	+ 1·9	+·0001
15 02	133·4	5·9	72·2	29·2	71·7	−·0032	+·0003	+ 5·6	+ 3·0	+·0001
27	162·6	15·9		25·5		−·0022	·0000	+26·7	+ 1·9	−·0001
32	154·5	24·4		24·1		−·0014	−·0002	+21·0	+ 1·0	−·0003
37	140·0	24·5		23·2		−·0014	−·0003	+10·5	+ 0·9	−·0004
42	133·5	22·3		22·6		−·0016	−·0003	+ 5·9	+ 1·1	−·0004
16 02	127·5	19·8	71·8	22·3	71·0	−·0019	−·0003	+ 1·5	+ 1·4	−·0004
07	127·5	21·1		22·3		−·0018	−·0003	+ 1·5	+ 1·3	−·0004
12	127·8	22·5		21·8		−·0016	−·0004	+ 1·8	+ 1·0	−·0005
17	127·5	22·7		21·9		−·0016	−·0004	+ 1·5	+ 1·0	−·0005
22	127·2	22·8		22·0		−·0016	−·0003	+ 1·3	+ 1·1	−·0004
27	126·8	23·2		22·3		−·0016	−·0003	+ 1·1	+ 1·1	−·0004
32	126·7	23·4		22·9		−·0016	−·0002	+ 1·0	+ 1·2	−·0003
37	126·6	23·4		22·9		−·0016	−·0002	+ 0·8	+ 1·2	−·0003
17 02	127·8	17·2	71·2	24·8	71·0	−·0022	·0000	+ 1·7	+ 1·9	−·0001

VAN DIEMEN ISLAND, 1843. AUGUST 3—4, 7—8.

1843. Van Diemen Island.

August 3—4.

MEAN MONTHLY READINGS OF THE MAGNETOMETERS.

Mean Göttingen Time.	Declination.	H. F. at 51°·1.	V. F. at 50°·3.	Mean Göttingen Time.	Declination.	H. F. at 51°·1.	V. F. at 50°·3.
Hours.	Sc. Div.	Sc. Div.	Sc. Div.	Hours.	Sc. Div.	Sc. Div.	Sc. Div.
00	71·8	62·2	29·8	12	70·7	62·6	19·2
01	71·7	62·6	27·0	13	70·9	61·5	25·1
02	71·5	62·0	27·8	14	72·3	60·1	28·2
03	72·2	62·3	28·6	15	73·8	59·2	27·6
04	72·6	61·6	25·8	16	75·7	60·0	28·1
05	73·4	62·4	27·1	17	77·2	60·4	29·9
06	73·1	62·3	25·2	18	77·1	61·3	30·4
07	73·9	62·4	25·2	19	76·5	62·1	28·6
08	73·6	63·2	25·8	20	75·0	62·7	26·4
09	73·5	62·6	23·1	21	74·6	62·4	27·4
10	72·8	62·7	21·7	22	73·8	61·8	30·5
11	71·4	62·6	19·4	23	72·3	62·2	29·2

Coefficients (A), Approximate Absolute Values (B.)

(A) Declin. $a = 0'·71$

H. F. $k = ·000230$, $q = ·000234$

V. F. $k = ·000036$, $q = ·00021$

(B) Approx. $\psi = -\ 9°\ 55'$, $X = 4·51$, $Y = 12·86$, $\theta = -\ 70°\ 37'$, $\phi = 13·62$

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours. $\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
3 21 02	77·0	56·1	50·4	27·2	49·6	−·0016	−·0002	+ 1·7	+ 1·5	−·0003
22 02	74·7	49·4	50·2	30·6	49·8	−·0031	−·0001	+ 0·6	+ 3·2	−·0004
23 02	76·4	49·6	50·0	42·5	49·8	−·0032	+·0004	+ 2·9	+ 3·9	·0000
4 00 02	63·4	56·2	50·0	20·3	49·0	−·0016	−·0005	− 6·0	+ 1·2	−·0006
12	63·4	56·2		20·3		−·0017	−·0005	− 6·0	+ 1·3	−·0006
17	67·0	56·3		23·4		−·0016	−·0004	− 3·4	+ 1·3	−·0005
22	69·7	54·6		26·0		−·0020	−·0003	− 1·5	+ 1·8	−·0005
27	68·2	54·1		27·8		−·0022	−·0002	− 2·6	+ 2·2	−·0004
32	68·2	54·3		28·2		−·0021	−·0002	− 2·6	+ 1·9	−·0004
37	67·2	54·7		28·5		−·0020	−·0002	− 3·2	+ 1·9	−·0004
42	69·1	55·3		31·3		−·0019	−·0001	− 1·9	+ 1·9	−·0003
47	71·6	54·1		28·7		−·0022	−·0002	− 0·1	+ 2·2	−·0004

1843.
Van Diemen Island.

August 4, 7—8.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours. $\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
4 00 52	63·5	58·4		17·3		−·0012	−·0006	− 5·8	+ 0·7	−·0007
57	58·0	67·5		44·4		+·0009	−·0007	− 9·7	− 1·7	−·0005
01 02	67·7	68·7	50·0	9·8	49·2	+·0012	−·0009	− 2·8	− 2·3	−·0007
07	74·4	64·9		11·0		+·0003	−·0008	+ 1·9	− 1·2	−·0007
12	76·5	56·7		11·3		−·0016	−·0008	+ 3·4	+ 0·9	−·0009
17	67·8	59·4		13·2		−·0009	−·0007	− 2·7	+ 0·2	−·0007
22	67·8	62·8		12·3		−·0001	−·0007	− 2·7	− 0·7	−·0006
27	68·3	63·5		10·9		+·0001	−·0008	− 2·3	− 1·0	−·0007
32	70·0	62·6		10·2		−·0001	−·0008	− 1·1	− 0·8	−·0007
37	70·4	60·4		11·8		−·0006	−·0007	− 0·9	− 0·1	−·0007
42	70·0	58·0		14·3		−·0011	−·0006	− 1·1	+ 0·4	−·0007
47	69·0	57·0		15·2		−·0013	−·0006	− 1·8	+ 0·8	−·0007
52	65·6	56·9		17·1		−·0013	−·0005	− 4·2	+ 0·9	−·0006
57	65·7	56·9		19·4		−·0013	−·0004	− 4·1	+ 1·0	−·0005
02 02	66·4	56·4	50·6	20·6	49·9	−·0014	−·0003	− 3·6	+ 1·2	−·0004
07	67·7	54·9		23·6		−·0017	−·0002	− 2·8	+ 1·6	−·0004
12	67·6	54·0		25·1		−·0020	−·0002	− 2·8	+ 1·9	−·0004
17	67·9	52·9		26·8		−·0022	−·0001	− 2·7	+ 2·3	−·0003
22	66·7	51·9		26·6		−·0025	−·0001	− 3·6	+ 2·6	−·0004
27	65·9	51·8		26·8		−·0025	−·0001	− 4·2	+ 2·6	−·0004
32	66·1	51·8		26·9		−·0025	−·0001	− 4·1	+ 2·6	−·0004
37	67·5	52·0		27·5		−·0024	−·0001	− 3·1	+ 2·5	−·0004
42	69·3	51·7		27·5		−·0025	−·0001	− 1·9	+ 2·6	−·0004
47	70·3	51·5		26·0		−·0026	−·0002	− 1·2	+ 2·6	−·0005
52	69·3	52·4		23·3		−·0024	−·0003	− 2·0	+ 2·3	−·0005
57	68·6	53·4		19·8		−·0021	−·0004	− 2·5	+ 1·8	−·0006
03 02	68·1	52·9	51·5	18·6	50·8	−·0021	−·0003	− 2·9	+ 1·9	−·0005
07	67·9	52·5		18·6		−·0022	−·0002	− 3·1	+ 2·2	−·0004
12	67·9	51·6		19·1		−·0023	−·0002	− 3·1	+ 2·3	−·0004
17	68·1	52·1		19·6		−·0022	−·0002	− 3·0	+ 2·3	−·0004
04 02	69·7	53·8	51·3	23·8	50·8	−·0017	·0000	− 2·1	+ 1·8	−·0002
07	71·1	54·7		22·2		−·0016	·0000	− 1·1	+ 1·7	−·0002
12	71·9	55·0		20·3		−·0015	−·0001	− 0·6	+ 1·5	−·0002
17	70·9	55·1		18·9		−·0015	−·0002	− 1·4	+ 1·4	−·0003
22	70·0	54·9		18·1		−·0016	−·0002	− 2·1	+ 1·5	−·0003
27	68·4	54·1		17·1		−·0018	−·0002	− 3·2	+ 1·7	−·0004
32	68·0	53·7		18·5		−·0019	−·0002	− 3·6	+ 1·8	−·0004
37	67·7	53·2		18·7		−·0020	−·0002	− 3·8	+ 1·9	−·0004
42	67·1	53·1		19·4		−·0020	−·0002	− 4·3	+ 1·9	−·0004
47	67·7	53·0		21·1		−·0021	−·0001	− 3·9	+ 2·2	−·0003
52	68·1	53·4		21·4		−·0020	−·0001	− 3·7	+ 1·9	−·0003
57	69·0	53·4		21·8		−·0020	−·0001	− 3·1	+ 1·9	−·0003
05 02	68·9	53·1	51·1	20·7	50·7	−·0021	−·0001	− 3·2	+ 2·2	−·0003
7 22 02	73·2	55·8	55·0	12·0	53·5	−·0005	·0000	− 0·4	+ 0·6	−·0001
23 02	65·6	54·5	54·8	7·1	53·5	−·0009	−·0001	− 4·8	+ 0·9	−·0002
07	64·7	54·5		5·9		−·0009	−·0002	− 5·4	+ 0·8	−·0003
12	63·9	53·6		6·0		−·0011	−·0002	− 5·9	+ 1·0	−·0003
17	63·4	52·9		6·7		−·0013	−·0001	− 6·3	+ 1·3	−·0002
22	63·3	52·8		9·7		−·0013	·0000	− 6·3	+ 1·4	−·0001
27	65·3	52·4		14·1		−·0014	+·0002	− 4·8	+ 1·7	·0000
32	67·8	51·7		16·6		−·0015	+·0002	− 3·1	+ 1·8	·0000
37	68·0	51·4		14·3		−·0016	+·0002	− 2·8	+ 1·9	·0000
42	68·0	53·1		16·2		−·0012	+·0002	− 2·8	+ 1·5	+·0001
47	68·3	54·1		11·6		−·0010	+·0001	− 2·6	+ 1·2	·0000
52	67·6	54·2		10·0		−·0009	·0000	− 3·1	+ 1·0	−·0001
57	67·6	53·9		10·2		−·0010	·0000	− 3·1	+ 1·1	−·0001
8 00 02	67·7	53·3	55·0	9·8	53·9	−·0012	·0000	− 2·9	+ 1·3	−·0001
07	66·9	53·2		9·3		−·0012	·0000	− 3·8	+ 1·3	−·0001
12	65·8	53·5		8·0		−·0012	·0000	− 4·3	+ 1·3	−·0001

1843.
Van Diemen Island.

August 8.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
8 00 17	65·8	—		—		—	—	− 4·3	—	—
22	66·7	53·8		9·0		−·0011	+·0001	− 3·6	+ 1·3	·0000
27	67·6	53·1		10·1		−·0013	+·0002	− 3·0	+ 1·6	·0000
32	68·3	53·7		8·2		−·0012	+·0001	− 2·5	+ 1·4	·0000
37	67·0	54·1		7·9		−·0011	+·0001	− 3·3	+ 1·3	·0000
42	66·5	54·4		6·3		−·0010	+·0001	− 3·7	+ 1·2	·0000
47	67·8	54·5		6·3		−·0010	+·0001	− 2·8	+ 1·2	·0000
52	67·5	54·5		6·4		−·0010	+·0001	− 3·0	+ 1·2	·0000
57	68·1	54·7		6·3		−·0010	+·0001	− 2·6	+ 1·2	·0000
01 02	68·7	55·4	55·3	5·7	54·6	−·0007	+·0001	− 2·1	+ 0·9	·0000

TORONTO, 1843. AUGUST 8.

1843.
Toronto.

August 8.

For Mean Monthly Readings, *see* page 244.

8 13 02	128·1	14·3	75·0	29·1	73·9	−·0021	+·0004	+ 1·9	+ 2·1	+·0002
14 02	146·3	8·3	74·8	26·4	73·9	−·0024	+·0002	+14·8	+ 2·2	·0000
07	145·1	18·9		26·4		−·0014	+·0002	+14·0	+ 1·4	+·0001
12	142·6	25·1		24·9		−·0008	+·0001	+12·1	+ 0·8	·0000
17	135·2	27·5		24·2		−·0005	·0000	+ 6·9	+ 0·4	·0000
22	132·5	23·6		23·0		−·0009	−·0001	+ 4·9	+ 0·7	−·0001
27	133·0	23·4		22·3		−·0009	−·0002	+ 5·3	+ 0·6	−·0002
32	130·3	20·7		22·2		−·0012	−·0002	+ 3·4	+ 0·9	−·0003
37	131·7	18·0		21·5		−·0014	−·0002	+ 4·4	+ 1·0	−·0003
42	131·8	13·7		21·5		−·0018	−·0002	+ 4·4	+ 1·4	−·0003
47	134·3	13·8		21·5		−·0018	−·0002	+ 6·3	+ 1·4	−·0003
52	136·0	17·9		21·5		−·0014	−·0002	+ 7·6	+ 1·0	−·0003
57	133·0	21·2		21·6		−·0011	−·0002	+ 5·4	+ 0·8	−·0003
15 02	127·3	22·1	74·5	21·6	75·0	−·0010	−·0002	+ 1·3	+ 0·7	−·0002
07	123·2	17·6		21·5		−·0014	−·0002	− 1·6	+ 1·0	−·0003
12	122·8	14·4		22·6		−·0017	−·0001	− 1·9	+ 1·4	−·0002
17	125·0	12·2		23·2		−·0020	·0000	− 0·4	+ 1·7	−·0001
22	126·0	13·3		23·2		−·0019	·0000	+ 0·4	+ 1·6	−·0001
27	125·0	16·0		23·0		−·0016	·0000	− 0·3	+ 1·4	−·0001
32	122·9	16·4		22·9		−·0016	·0000	− 1·8	+ 1·4	−·0001
37	122·8	21·5		22·9		−·0011	·0000	− 1·8	+ 0·9	−·0001
42	123·2	20·1		22·9		−·0012	·0000	− 1·5	+ 1·0	−·0001
47	123·6	19·2		22·9		−·0013	·0000	− 1·3	+ 1·1	−·0001
52	125·1	17·4		23·0		−·0015	·0000	− 0·1	+ 1·3	−·0001
57	127·0	18·1		23·3		−·0014	·0000	+ 1·2	+ 1·2	−·0001
16 02	127·7	20·7	74·1	23·3	74·5	−·0012	·0000	+ 1·1	+ 1·0	−·0001
07	126·5	19·6		23·5		−·0013	·0000	+ 0·8	+ 1·1	−·0001
12	126·3	20·3		24·2		−·0012	+·0001	+ 0·7	+ 1·1	·0000
17	125·9	19·0		24·2		−·0014	+·0001	+ 0·4	+ 1·3	·0000
22	126·0	17·2		23·9		−·0015	+·0001	+ 0·5	+ 1·4	·0000
27	126·6	18·2		23·9		−·0014	+·0001	+ 0·9	+ 1·3	·0000
32	126·0	17·8		21·4		−·0015	−·0002	+ 0·5	+ 1·1	−·0003
37	125·0	21·4		20·6		−·0011	−·0002	− 0·3	+ 0·8	−·0003
42	123·9	23·4		19·8		−·0009	−·0003	− 1·1	+ 0·5	−·0003
47	123·8	25·1		18·7		−·0008	−·0004	− 1·1	+ 0·3	−·0004
52	123·0	23·1		18·6		−·0010	−·0004	− 1·7	+ 0·5	−·0004
57	123·0	23·2		15·8		−·0010	−·0007	− 1·7	+ 0·2	−·0007
17 02	121·5	18·0	73·7	17·1	74·1	−·0015	−·0005	− 2·7	+ 0·9	−·0006

VAN DIEMEN ISLAND, 1843. AUGUST 8.

1843.
Van Diemen Island.

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For Mean Monthly Readings, *see* page 245.

8 15 02	76·8	53·1	54·9	11·7	53·3	−·0005	+·0901	+ 2·1	+ 0·7	·0000
16 02	75·8	56·4	54·8	4·9	53·4	·0000	−·0002	+ 0·1	− 0·2	−·0002
17 02	80·6	52·4	54·6	17·9	53·4	−·0010	+·0002	+ 2·4	+ 1·3	+·0001
18 02	75·0	48·7	54·6	23·7	53·4	−·0021	+·0004	− 1·5	+ 2·7	+·0001

1843.
Van Diemen Island.

August 8.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
8 18 12	74·4	46·7		23·7		−·0026	+·0004	−1·9	+ 3·2	+·0001
17	72·2	44·4		25·8		−·0031	+·0005	− 3·3	+ 3·9	+·0001
22	70·3	43·8		29·6		−·0033	+·0007	− 4·7	+ 4·3	+·0003
27	72·5	45·2		33·1		−·0029	+·0008	− 3·1	+ 4·0	+·0004
32	75·7	43·2		33·3		−·0034	+·0009	− 0·8	+ 4·6	+·0004
37	75·1	43·2		34·3		−·0035	+·0009	− 1·1	+ 4·7	+·0004
42	75·2	—		—		—	—	− 1·1	—	—
19 02	78·1	45·2	55·0	33·2	54·0	−·0030	+·0010	+ 1·1	+ 4·3	+·0006
20 02	75·1	55·0	55·0	3·9	54·0	−·0009	·0000	+ 0·1	+ 1·0	−·0001
07	75·5	55·6		3·7		−·0007	·0000	+ 0·4	+ 0·8	−·0001
12	75·2	55·6		4·2		−·0007	·0000	+ 0·2	+ 0·8	−·0001
17	75·2	55·8		4·2		−·0006	·0000	+ 0·2	+ 0·7	−·0001
22	74·6	56·4		2·6		−·0005	−·0001	− 0·2	+ 0·4	−·0001
27	74·3	56·3		2·2		−·0005	−·0001	− 0·4	+ 0·4	−·0001
32	74·2	56·2		3·5		−·0005	·0000	− 0·4	+ 0·4	−·0001
37	73·8	56·1		3·5		−·0006	·0000	− 0·7	+ 0·7	−·0001
42	73·7	57·2		3·5		−·0003	·0000	− 0·7	+ 0·3	·0000
47	73·2	56·9		2·4		−·0003	−·0001	− 1·1	+ 0·2	−·0001
52	73·4	56·3		2·8		−·0002	−·0001	− 0·9	+ 0·1	−·0001
57	74·5	55·8		2·8		−·0006	−·0001	− 0·1	+ 0·4	−·0002
21 02	74·4	55·6	55·2	2·8	54·2	−·0006	−·0001	− 0·1	+ 0·6	−·0002
22 02	71·7	55·7	55·3	2·9	53·8	−·0004	−·0003	− 1·5	+ 0·1	−·0003
23 02	66·9	58·8	55·1	3·8	53·8	+·0001	−·0005	− 3·9	− 0·7	−·0004

1843.
St. Helena.

August 11.

ST. HELENA, 1843. AUGUST 11—12.

MEAN MONTHLY READINGS OF THE MAGNETOMETERS.

Mean Göttingen Time.	Declination.	H. F. at 60°·9.	V. F. at 60°·7.	Mean Göttingen Time.	Declination.	H. F. at 60°·9.	V. F. at 60°·7.
Hours.	Sc. Div.	Sc. Div.	Sc. Div.	Hours.	Sc. Div.	Sc. Div.	Sc. Div.
00	9·9	88·5	40·2	12	10·7	80·8	41·0
01	10·4	88·8	40·6	13	10·7	81·0	40·7
02	9·8	88·0	41·0	14	10·6	80·7	40·6
03	9·8	87·2	41·4	15	10·8	80·9	40·5
04	10·0	85·7	41·6	16	11·0	81·2	40·4
05	10·1	84·5	41·7	17	11·1	81·1	40·4
06	9·7	83·4	41·8	18	11·6	81·3	40·3
07	9·6	82·4	41·8	19	12·6	81·7	40·1
08	10·0	81·5	41·7	20	13·9	82·0	40·0
09	10·3	81·0	41·7	21	12·6	82·8	39·9
10	10·5	80·8	41·4	22	10·7	84·8	40·0
11	10·7	80·9	41·1	23	9·7	86·6	40·0

Coefficients (A), Approximate Absolute Values (B).

(A) Declin. $a = 0'·712$

H. F. $k = ·00019$, $q = ·00028$

V. F. $k = ·00085$, $q = ·00002$

(B) Approx. $\psi = 23° 15'$, $X = 5·57$, $Y = 2·22$, $\theta = -21° 43'$, $\phi = 6·00$

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
11 21 02	12·0	86·9	58·8	37·2	58·7	+·0002	−·0023	− 0·4	− 3·0	−·0001
22 02	9·0	94·7	58·8	37·2	58·7	+·0013	−·0024	− 1·2	− 4·2	+·0008
07	8·8	94·8		37·2		+·0013	−·0024	− 1·3	− 4·2	+·0008
12	8·8	94·9		37·2		+·0013	−·0024	− 1·2	− 4·2	+·0008
17	8·6	94·8		37·2		+·0012	−·0024	− 1·3	− 4·2	+·0007
22	8·2	94·4		37·0		+·0011	−·0026	− 1·5	− 4·2	+·0006

1843.
St. Helena.

August 11—12.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
11 22 27	7·8	88·7		37·0		·0000	−·0026	− 1·8	− 3·1	−·0004
32	7·3	88·4		37·0		−·0001	−·0026	− 2·0	− 2·8	−·0004
37	7·3	88·6		37·0		·0000	−·0026	− 2·0	− 3·1	−·0004
42	6·9	88·8		37·0		·0000	−·0026	− 2·2	− 3·1	−·0004
47	7·2	89·0		37·0		·0000	−·0026	− 2·0	− 3·1	−·0004
52	7·2	89·6		37·0		+·0001	−·0026	− 1·9	− 3·2	−·0003
57	7·1	89·8		37·0		+·0001	−·0026	− 1·9	− 3·2	−·0003
23 02	7·0	90·0	58·9	37·0	58·8	+·0001	−·0026	− 1·9	− 3·2	−·0003
07	7·0	90·5		37·0		+·0002	−·0026	− 1·9	− 3·3	−·0002
12	6·8	90·9		37·0		+·0002	−·0026	− 2·0	− 3·3	−·0002
17	6·8	90·9		37·0		+·0002	−·0026	− 2·0	− 3·3	−·0002
22	6·5	91·4		37·0		+·0003	−·0026	− 2·3	− 3·4	−·0001
27	6·3	91·7		36·8		+·0003	−·0028	− 2·5	− 3·5	−·0001
32	6·3	91·9		36·6		+·0003	−·0030	− 2·5	− 3 9	−·0001
37	6·6	92·4		36·6		+·0004	−·0030	− 2·2	− 4·0	−·0001
42	6·9	93·0		36·6		+·0005	−·0030	− 2·0	− 4·1	·0000
47	6·9	93·2		36·6		+·0005	−·0030	− 2·0	− 4·1	·0000
52	6·6	93·7		36·6		+·0006	−·0031	− 2·3	− 4·2	+·0001
57	6·4	93·8		36·6		+·0006	−·0031	− 2·5	− 4·2	+·0001
12 00 02	6·6	93·7	59·2	36·8	59·2	+·0005	−·0029	− 2·3	− 4·0	·0000
07	6·6	93·5		36·8		+·0005	−·0029	− 2·3	− 4·0	·0000
12	6·4	93·5		36·8		+·0005	−·0030	− 2·5	− 4·1	·0000
17	6·7	93·3		36·8		+·0005	−·0030	− 2·3	− 4·1	·0000
22	6·9	93·5		37·0		+·0005	−·0028	− 2·2	− 3·9	+·0001
27	7·2	94·0		37·0		+·0006	−·0029	− 2·0	− 4·1	+·0001
32	7·6	93·8		37·0		+·0006	−·0029	− 1·8	− 4·1	+·0001
37	7·6	93·4		37·0		+·0005	−·0029	− 1·8	− 4·0	·0000
42	7·8	93·5		36·9		+·0005	−·0031	− 1·7	− 4·2	·0000
47	8·0	93·3		37·0		+·0005	−·0030	− 1·6	− 4·1	·0000
52	8·0	93·0		36·9		+·0004	−·0031	− 1·6	− 4·1	−·0001
57	8·0	92·3		36·9		+·0003	−·0032	− 1·7	− 4·1	−·0002
01 02	8·0	92·0	59·7	36·8	59·5	+·0003	−·0032	− 1·7	− 4·1	−·0002
07	7·9	91·8		36·7		+·0003	−·0032	− 1·7	− 4·2	−·0002
12	7·8	91·2		36·7		+·0002	−·0033	− 1·8	− 4·2	−·0003
17	7·5	90·9		36·7		+·0001	−·0034	− 1·9	− 4·1	−·0004
22	7·3	90·4		36·7		·0000	−·0034	− 2·0	− 4·0	−·0005
27	7·3	89·9		36·5		−·0001	−·0037	− 2·0	− 4·2	−·0006
32	7·2	89·6		36·5		−·0001	−·0037	− 2·0	− 4·2	−·0006
37	7·5	89·4		36·5		−·0001	−·0037	− 1·8	− 4·2	−·0006
42	7·8	89·2		36·6		−·0001	−·0037	− 1·5	− 4·2	−·0006
47	7·9	89·0		36·6		−·0002	−·0037	− 1·4	− 4·1	−·0007
52	8·0	89·0		36·6		−·0001	−·0037	− 1·3	− 4·2	−·0006
57	8·1	88·9		36·7		−·0001	−·0037	− 1·2	− 4·2	−·0006
02 02	8·2	88·9	59·9	36·7	59·7	−·0001	−·0037	− 1·1	− 4·2	−·0006
07	8·8	88·6		36·7		−·0002	−·0037	− 0·7	− 4·1	−·0007
12	9·0	88·0		36·8		−·0003	−·0037	− 0·6	− 4·0	−·0008
17	9·2	87·8		37·0		−·0003	−·0035	− 0·4	− 3·8	−·0007
22	9·8	87·8		37·0		−·0003	−·0035	0·0	− 3·8	−·0007
27	10·0	87·4		37·0		−·0003	−·0036	+ 0·1	− 3·9	−·0007
32	10·0	87·3		37·0		−·0003	−·0036	+ 0·1	− 3·9	−·0007
37	10·2	87·3		37·3		−·0003	−·0033	+ 0·3	− 3·5	−·0007
42	10·4	87·3		37·3		−·0003	−·0034	+ 0·4	− 3·5	−·0007
47	10·5	87·3		37·3		−·0003	−·0034	+ 0·5	− 3·5	−·0007
52	10·7	87·3		37·3		−·0003	−·0034	+ 0·6	− 3·5	−·0007
57	10·9	87·3		37·3		−·0003	−·0035	+ 0·8	− 3·8	−·0007
03 02	11·0	87·3	60·0	37·3	59·9	−·0002	−·0035	+ 0·8	− 3·9	−·0006
07	11·0	87·3		37·3		−·0002	−·0035	+ 0·8	− 3·9	−·0006
12	11·2	86·8		37·6		−·0002	−·0032	+ 1·0	− 3·5	−·0006
17	11·2	86·4		37·6		−·0003	−·0032	+ 1·0	− 3·4	−·0007
22	11·1	86·3		37·8		−·0003	−·0032	+ 0·8	− 3·4	−·0007
27	11·1	86·1		37·7		−·0003	−·0032	+ 0·8	− 3·4	−·0007
32	10·9	86·1		37·7		−·0002	−·0032	+ 0·7	− 3·5	−·0006

1843. St. Helena.

August 12.

OBSERVATIONS OF THE MAGNETOMETERS. The Declination was observed 2m. before, and the V. F. 1m. after the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta \psi$	$\Delta \theta$	$\frac{\Delta \phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
12 03 37	10·8	86·0		37·8		−·0002	−·0032	+ 0·6	− 3·5	−·0006
42	10·6	85·6		37·8		−·0002	−·0032	+ 0·5	− 3·5	−·0006
47	10·6	86·2		37·8		−·0001	−·0032	+ 0·5	− 3·5	−·0005
52	10·6	85·8		37·8		−·0001	−·0032	+ 0·4	− 3·5	−·0005
57	10·6	85·4		37·9		−·0001	−·0032	+ 0·4	− 3·5	−·0005
04 02	10·6	84·8	60·8	37·9	60·6	−·0002	−·0032	+ 0·6	− 3·5	−·0006
05 02	10·9	83·0	60·9	36·9	60·6	−·0003	−·0041	+ 0·8	− 4·5	−·0008

1843. Toronto.

August 22.

For Mean Monthly Readings, *see* page 244.

TORONTO, 1843. AUGUST 22.

22 10 02	114·7	85·1	70·6	36·5	69·3	+·0030	+·0007	− 5·4	− 1·9	+·0009
22	118·6	56·0		30·4		+·0002	+·0001	− 3·1	− 0·1	+·0001
27	119·0	52·3		30·5		−·0002	+·0001	− 3·0	+ 0·2	+·0001
32	119·8	56·1		30·9		+·0002	+·0002	− 2·6	0·0	+·0002
37	120·0	56·4		30·9		+·0003	+·0002	− 2·5	− 0·1	+·0002
42	120·3	57·4		30·9		+·0004	+·0002	− 2·4	− 0·2	+·0002
47	120·8	60·2		30·4		+·0007	+·0001	− 2·2	− 0·5	+·0001
52	121·4	63·0		31·3		+·0010	+·0002	− 1·8	− 0·7	+·0002
57	121·3	61·1		30·5		+·0008	+·0002	− 2·0	− 0·5	+·0002
11 02	121·8	64·2	71·0	30·0	69·5	+·0012	+·0001	− 1·8	− 0·9	+·0002
07	122·4	60·4		29·7		+·0008	+·0001	− 1·4	− 0·6	+·0001
12	122·2	59·6		29·6		+·0008	+·0001	− 1·6	− 0·6	+·0001
17	122·5	59·2		29·6		+·0007	+·0001	− 1·5	− 0·5	+·0001
22	122·4	61·2		28·7		+·0010	·0000	− 1·6	− 0·9	+·0001
27	122·7	63·0		30·3		+·0012	+·0002	− 1·5	− 0·9	+·0003
32	121·3	66·9		31·2		+·0016	+·0003	− 2·6	− 1·1	+·0004
37	121·0	69·6		31·6		+·0019	+·0003	− 2·8	− 1·4	+·0004
42	121·2	71·2		32·7		+·0021	+·0004	− 2·8	− 1·4	+·0005
47	121·6	66·1		32·5		+·0016	+·0004	− 2·6	− 1·0	+·0005
52	122·8	59·1		31·7		+·0009	+·0003	− 1·7	− 0·5	+·0003
57	123·4	55·3		32·1		+·0006	+·0004	− 1·3	− 0·2	+·0004
12 02	123·0	54·3	71·0	32·1	69·6	+·0005	+·0004	− 1·7	− 0·1	+·0004
07	121·9	51·6		31·6		+·0003	+·0003	− 2·6	0·0	+·0003
12	121·9	50·4		32·1		+·0002	+·0004	− 2·6	+ 0·2	+·0004
17	122·0	51·0		32·1		+·0003	+·0004	− 2·5	+ 0·1	+·0004
22	122·0	50·1		31·7		+·0002	+·0003	− 2·5	+ 0·1	+·0003
27	121·1	47·0		32·7		−·0001	+·0005	− 3·1	+ 0·5	+·0005
32	120·5	49·5		33·4		+·0002	+·0005	− 3·5	+ 0·2	+·0005
37	120·5	49·4		34·6		+·0002	+·0006	− 3·5	+ 0·3	+·0006
42	119·2	47·2		34·2		0000	+·0006	− 4·4	+ 0·5	+·0006
47	118·8	42·4		35·3		−·0005	+·0007	− 4·7	+ 1·0	+·0006
52	119·5	37·0		35·9		−·0010	+·0008	− 4·2	+ 1·5	+·0007
57	119·9	35·3		37·6		−·0011	+·0010	− 4·0	+ 1·8	+·0009
13 02	124·1	30·7	71·0	38·8	71·0	−·0016	+·0011	− 0·9	+ 2·3	+·0009
07	127·2	29·8		38·9		−·0016	+·0011	+ 1·3	+ 2·3	+·0009
12	126·9	28·2		38·6		−·0018	+·0011	+ 1·0	+ 2·4	+·0009
17	129·5	16·7		36·7		−·0029	+·0009	+ 2·9	+ 3·2	+·0007
22	132·4	17·7		36·4		−·0028	+·0009	+ 4·9	+ 3·1	+·0007
27	134·4	14·7		35·3		−·0030	+·0008	+ 6·4	+ 3·2	+·0006
32	137·5	20·1		36·7		−·0025	+·0009	+ 8·5	+ 2·9	+·0007
37	143·0	17·9		38·0		−·0027	+·0010	+12·5	+ 3·1	+·0008
42	148·4	17·7		33·5		−·0027	+·0006	+16·4	+ 2·8	+·0004
47	145·2	16·2		33·1		−·0028	+·0006	+14·1	+ 2·9	+·0004
52	142·9	16·3		32·9		−·0028	+·0006	+12·3	+ 2·9	+·0004
57	138·0	18·2		33·4		−·0026	+·0006	+ 8·9	+ 2·7	+·0004
14 02	129·2	20·2	70·8	33·7	71·0	−·0023	+·0007	+ 2·6	+ 2·5	+·0005
07	123·6	19·4		36·6		−·0024	+·0009	− 1·5	+ 2·8	+·0007
12	125·1	17·5		34·8		−·0026	+·0008	− 0·4	+ 2·9	+·0006
17	136·9	18·1		22·7		−·0025	−·0004	+ 8·0	+ 1·8	−·0005

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm.	Sc. Div.	Therm.	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
22 14 22	138·9	7·4		5·1		−·0036	−·0020	+ 9·6	+ 1·4	−·0021
27	122·5	12·5		9·7		−·0031	−·0016	− 2·3	+ 1·3	−·0017
32	126·6	15·3		26·2		−·0028	0000	+ 0·7	+ 2·4	−·0002
37	139·2	17·3		26·2		−·0026	0000	+ 9·8	+ 2·2	−·0002
42	145·6	31·6		24·6		−·0011	−·0002	+14·4	+ 0·8	−·0003
47	141·9	37·4		25·2		−·0005	−·0001	+11·7	+ 0·3	−·0001
52	133·5	35·7		29·8		−·0007	+·0003	+ 5·8	+ 0·9	+·0002
57	135·6	35·4		29·3		−·0007	+·0003	+ 7·3	+ 0·9	+·0002
15 02	130·6	36·2	70·6	27·7	71·0	−·0006	+·0001	+ 3·7	+ 0·6	+·0001
07	127·5	36·1		29·0		−·0006	+·0003	+ 1·4	+ 0·8	+·0002
12	128·2	33·6		27·9		−·0009	+·0002	+ 1·9	+ 0·9	+·0001
17	131·3	36·5		28·7		−·0006	+·0002	+ 4·2	+ 0·7	+·0002
22	130·0	37·5		27·4		−·0005	+·0001	+ 3·3	+ 0·5	+·0001
27	128·7	39·0		27·0		−·0003	+·0001	+ 2·4	+ 0·3	+·0001
32	127·9	39·4		27·0		−·0003	+·0001	+ 1·8	+ 0·3	+·0001
37	125·0	38·5		27·2		−·0004	+·0001	− 0·3	+ 0·4	+·0001
42	123·5	39·1		27·6		−·0003	+·0001	− 1·3	+ 0·3	+·0001
47	125·6	40·1		27·6		−·0002	+·0001	+ 0·1	+ 0·2	+·0001
52	125·2	36·2		27·4		−·0006	+·0001	− 0·1	+ 0·6	+·0001
57	125·6	32·7		29·0		−·0010	+·0003	+ 0·2	+ 1·1	+·0002
16 02	127·0	32·4	70·5	29·1	70·3	−·0010	+·0003	+ 1·2	+ 1·1	+·0002
07	127·9	30·8		28·7		−·0012	+·0002	+ 1·8	+ 1·2	+·0001
12	128·1	30·3		29·1		−·0012	+·0003	+ 2·0	+ 1·3	+·0002
17	128·0	29·9		28·4		−·0013	+·0002	+ 1·9	+ 1·3	+·0001
22	128·0	25·4		27·4		−·0017	+·0001	+ 1·9	+ 1·5	·0000
27	129·0	27·2		26·0		−·0015	·0000	+ 2·7	+ 1·3	−·0001
32	132·9	28·4		23·2		−·0014	−·0003	+ 5·4	+ 0·9	−·0004
37	134·2	34·2		21·1		−·0008	−·0005	+ 6·4	+ 0·2	−·0005
42	129·3	36·1		21·1		−·0006	−·0005	+ 2·8	+ 0·1	−·0005
47	127·3	36·3		21·4		−·0006	−·0004	+ 1·3	+ 0·2	−·0004
52	130·0	48·1		22·2		+·0006	−·0003	+ 3·3	+ 0·8	−·0002
57	134·1	52·9		19·0		+·0011	−·0006	+ 6·3	− 1·4	−·0005
17 02	128·4	54·5	70·2	19·0	70·2	+·0012	−·0006	+ 2·2	− 1·5	−·0005
07	124·6	50·5		20·6		+·0008	−·0005	− 0·5	− 1·1	−·0004
12	124·9	49·2		22·8		+·0007	−·0003	− 0·3	− 0·9	−·0002
17	124·7	48·6		24·1		+·0006	−·0002	− 0·4	− 0·7	−·0002
22	118·7	53·9		21·7		+·0011	−·0004	− 4·7	− 1·3	−·0003
27	110·2	47·9		19·7		+·0005	−·0006	−10·7	− 0·9	−·0005
32	108·2	56·7		21·4		+·0014	−·0004	−12·1	− 1·5	−·0003
37	116·7	57·3		20·8		+·0014	−·0005	− 6·0	− 1·6	−·0004
42	125·3	60·3		19·3		+·0017	−·0006	+ 0·2	− 1·9	−·0004
47	127·8	61·2		17·8		+·0018	−·0007	+ 2·0	− 2·1	−·0005
52	128·0	60·9		17·4		+·0017	−·0008	+ 2·3	− 2·1	−·0006
57	127·7	58·7		17·3		+·0015	−·0008	+ 2·0	− 1·9	−·0006
18 02	125·4	56·6	69·6	18·9	70·3	+·0013	−·0006	+ 0·4	− 1·6	−·0005
07	125·9	56·3		18·9		+·0013	−·0006	+ 0·8	− 1·6	−·0005
19 02	125·0	52·3	69·5	18·3	70·2	+·0010	−·0007	− 0·2	− 1·4	−·0006
20 02	129·1	54·5	69·4	18·1	70·0	+·0011	−·0007	+ 2·3	− 1·5	−·0006
21 02	122·6	45·9	68·4	23·7	69·0	+·0001	−·0003	− 2·3	− 0·3	−·0003
22 02	126·1	44·9	67·7	30·4	68·0	+·0006	+·0002	− 0·4	− 0·3	+·0002

1843.
Van Diemen Island.

September 1.

VAN DIEMEN ISLAND, 1843. SEPTEMBER 1—2.

MEAN MONTHLY READINGS OF THE MAGNETOMETERS.

Mean Göttingen Time.	Declination.	H. F. at 52°·1.	V. F. at 51°·0.	Mean Göttingen Time.	Declination.	H. F. at 52°·1.	V. F. at 51°·0.
Hours.	Sc. Div.	Sc. Div.	Sc. Div.	Hours.	Sc. Div.	Sc. Div.	Sc. Div.
00	71·5	69·7	47·8	12	68·8	68·3	38·1
01	71·4	69·7	45·6	13	69·8	67·3	39·2
02	71·1	71·0	44·7	14	72·2	66·4	44·3
03	71·2	71·1	45·1	15	75·5	66·0	47·2
04	72·1	70·2	46·4	16	77·8	67·0	49·5
05	73·0	70·6	45·6	17	79·0	68·2	50·0
06	73·1	70·3	43·6	18	78·7	69·4	49·9
07	73·2	70·3	42·4	19	77·5	69·2	50·3
08	73·0	70·4	41·1	20	75·8	69·6	49·1
09	72·3	70·2	39·9	21	74 5	69·8	48·4
10	71·1	69·9	38·9	22	72·7	69·5	46·4
11	69·3	69·3	37·7	23	71·4	69·5	46·6

Coefficients (A), Approximate Absolute Values (B).

(A)
- Declin. a = 0′·71
- H. F. k = ·000230, q = ·000234
- V. F. k = ·000036, q = ·00021

(B) Approx.
- ψ = − 9° 55′
- X = 4·51
- Y = 12·86
- θ = − 70° 37′
- ϕ = 13·62

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
1 00 02	72·0	66·3	50·6	56·3	50·1	−·0011	+·0001	+ 0·4	+ 1·3	·0000
01 02	73·0	66·7	50·6	58·0	49·9	−·0010	+·0002	+ 1·1	+ 1·3	+·0001
52	71·6	67·7		54·9		−·0011	·0000	+ 0·4	+ 1·2	−·0001
57	71·2	68·3		55·2		−·0010	·0000	+ 0·1	+ 1·1	−·0001
02 02	70·9	68·0	50·4	54·5	48·9	−·0011	−·0001	− 0·1	+ 1·1	−·0002
07	70·6	68·2		55·1		−·0010	−·0001	− 0·4	+ 1·0	−·0002
12	71·0	68·2		55·8		−·0010	·0000	− 0·1	+ 1·1	−·0001
17	71·3	69·8		53 6		−·0007	−·0001	+ 0·1	+ 0·7	−·0002
22	71·8	70·5		54·7		−·0005	·0000	+ 0·5	+ 0·4	−·0001
27	73·1	71·0		53·3		−·0004	−·0001	+ 1·4	+ 0·3	·0000
32	72·8	72·0		48·5		−·0002	−·0002	+ 1·2	0·0	−·0002
37	71·9	72·6		45·6		·0000	−·0003	+ 0·5	− 0·3	−·0003
42	69 5	73·5		42·2		−·0002	−·0004	− 1·2	− 0·7	−·0003
47	66·5	74·5		37·9		+·0004	−·0006	− 3·3	− 1·1	−·0005
52	64·5	75·0		36·0		+·0005	−·0006	− 4·8	− 1·2	−·0005
57	63·6	75·8		34·1		+·0007	−·0007	− 5·4	− 1·5	−·0006
03 02	63·8	76·1	50·4	33·6	49·8	+·0008	−·0007	− 5·3	− 1·6	−·0005
07	64·3	75·4		32·5		+·0006	−·0007	− 5·0	− 1·4	−·0006
12	64·1	73·7		32·6		+·0003	−·0007	− 5·2	− 1·1	−·0006
17	64·0	72·5		38·0		·0000	−·0005	− 5·3	− 0·4	−·0004
22	64·2	71·1		41·8		−·0003	−·0004	− 5·2	− 0·1	−·0004
27	65·3	69·6		45·1		−·0006	−·0003	− 4·5	+ 0·3	−·0003
32	65·8	68·5		47·7		−·0009	−·0002	− 4·2	+ 0·8	−·0003
37	65·8	67·8		52·2		−·0010	·0000	− 4·3	+ 1·1	−·0001
42	67·0	67·8		53·8		−·0010	·0000	− 3·4	+ 1·1	−·0001
47	67·8	67·9		55·8		−·0010	+·0001	− 2·9	+ 1·2	·0000
52	67·8	68·0		54·9		−·0009	+·0001	− 3·0	+ 1·1	·0000
57	67·4	67·9		55·4		−·0009	+·0001	− 3·3	+ 1·1	·0000
04 02	66·8	68·0	50·3	53·7	49·8	−·0009	·0000	− 3·8	+ 1·0	−·0001
07	65·3	68·3		51·5		−·0009	−·0001	− 4·9	+ 0·9	−·0002
12	64·0	67·9		50·7		−·0010	−·0001	− 5·9	+ 1·0	−·0002
17	64·0	67·8		50·7		−·0010	−·0001	− 5·9	+ 1·0	−·0002
22	64 0	67·5		50·3		−·0011	−·0001	− 6·0	+ 1·1	−·0002
27	64·0	—		—		—	—	− 6·0	—	—
05 02	71·4	67·8	50·4	58·8	49·8	−·0010	+·0002	− 1·3	+ 1·3	+·0001
06 02	66·4	68·6	50·0	44·2	49·6	−·0009	−·0003	− 4·8	+ 0·7	−·0004

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OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
1 07 02	72·2	65·2	50·2	58·0	49·2	−·0016	+·0002	− 0·7	+ 1·9	·0000
08 02	74·5	66·5	49·8	60·1	49·0	−·0014	+·0003	+ 1·1	+ 1·8	+·0001
09 02	73·0	68·4	49·6	48·0	49·0	−·0010	−·0001	+ 0·5	+ 1 0	−·0002
10 02	70·9	66·9	49·0	51·4	49·8	−·0014	+·0002	− 0·1	+ 1·7	·0000
11 02	69·8	67·3	49·0	50·5	48·0	−·0012	−·0002	+ 0·4	+ 1·1	−·0003
12 02	69·6	67·1	48·8	53·8	47·8	−·0010	−·0001	+ 0·6	+ 1·0	−·0002
13 02	69·5	66·6	48·8	56·7	47·8	−·0009	−·0001	− 0·2	+ 0·9	−·0002
14 02	71·6	65·3	48·8	60·2	47·8	−·0010	−·0001	− 0·4	+ 1·0	−·0002
15 02	74·7	63·2	49·0	65·3	47·8	−·0014	·0000	− 0·6	+ 1·5	−·0001
16 02	77·9	66·5	49·2	61·6	48·0	−·0008	−·0002	+ 0·1	+ 0·7	−·0003
17 02	79·6	66·1	49·2	64·4	48·4	−·0012	−·0001	+ 0·4	+ 1·2	−·0002
18 02	80·0	68·7	49·6	64·6	48·6	−·0007	·0000	+ 0·9	+ 0·8	−·0001
19 02	81·3	63·0	50·0	70·1	48·8	−·0019	+·0002	+ 2·7	+ 2·3	·0000
20 02	74·1	63·7	50·8	68·6	49·5	−·0017	+·0004	− 1·2	+ 2·3	+·0002
21 02	79·5	64·8	50·8	66·9	49·4	−·0015	+·0003	+ 3·6	+ 1·9	+·0001
22 02	61·9	73·4	51·2	48·0	50·0	+·0007	−·0002	− 7·7	− 1·0	−·0001
07	68·0	73·6		45·1		+·0007	−·0003	− 3·3	− 1·1	−·0002
12	71·1	72·1		45·1		+·0004	−·0002	− 1·0	− 0·7	−·0001
17	73·4	71·3		45·4		+·0002	−·0002	+ 0·7	− 0·4	−·0002
22	74·2	71·6		47·5		+·0003	−·0002	+ 1·4	− 0·4	−·0001
27	75·2	70·7		48·3		+·0001	−·0001	+ 2·2	− 0·2	−·0001
32	75·2	68·8		49·0		−·0003	−·0001	+ 2·3	+ 0·2	−·0001
37	74·5	67·7		51·8		−·0006	·0000	+ 1·9	+ 0·7	−·0001
42	71·3	66·5		49·8		−·0009	−·0001	− 0·4	+ 0·9	−·0002
47	68·7	67·7		50·8		−·0006	·0000	− 2·1	+ 0·7	−·0001
52	69·5	67·2		52·5		−·0007	·0000	− 1·5	+ 0·8	−·0001
57	71·2	65·5		50·7		−·0011	·0000	− 0·2	+ 1·2	−·0001
23 02	72·1	62·5	51·4	49·2	50·2	−·0018	−·0001	− 0·5	+ 1·8	−·0003
07	71·3	60·2		62·0		−·0023	+·0004	− 0·1	+ 2·9	+·0001
12	69·7	59·8		66·3		−·0024	+·0005	− 1·2	+ 3·1	+·0002
17	70·8	60·2		69·1		−·0023	+·0006	− 0·4	+ 3·1	+·0003
22	71·1	60·6		71·1		−·0022	+·0007	− 0·2	+ 3·1	+·0004
27	71·8	61 6		71·3		−·0020	+·0007	+ 0·3	+ 2 9	+·0004
32	72·8	62·0		67·1		−·0019	+·0006	+ 1·0	+ 2·7	+·0003
37	72·8	62·0		65·9		−·0019	+·0005	+ 0·9	+ 2·6	+·0002
42	72·4	63·1		65·1		−·0017	+·0005	+ 0·6	+ 2·4	+·0003
47	72·8	63·6		64·2		−·0016	+·0005	+ 0·9	+ 2·3	+·0003
52	72·7	64·1		62·6		−·0014	+·0004	+ 0·9	+ 1·9	+·0002
2 00 02	73·4	64·1	51·4	60·3	50·4	−·0015	+·0003	+ 1·3	+ 1·9	+·0001
01 02	72·2	64·6	51·6	55·1	50·4	−·0013	+·0002	+ 0·6	+ 1·6	·0000

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MEAN MONTHLY READINGS OF THE MAGNETOMETERS.

Mean Göttingen Time.	Declination.	H. F. at 60°·4.	V. F. at 60°·4.	Mean Göttingen Time.	Declination.	H. F. at 60°·4.	V. F. at 60°·4.
Hours.	Sc. Div.	Sc Div.	Sc. Div.	Hours.	Sc. Div.	Sc. Div.	Sc. Div.
00	11·6	87·1	39·9	12	10·4	79·1	40·1
01	11·9	87·7	40·1	13	10·3	79·9	39·9
02	11·3	87·2	40·4	14	10·1	80·2	39·8
03	10·2	86·0	40·7	15	10·1	80·7	39·8
04	9·3	84·6	40·8	16	9·9	80 5	39·8
05	8·9	83·1	40·9	17	10·1	80·4	39·8
06	9·2	81·3	40·8	18	10·2	80·4	39·8
07	9·3	80·5	40 8	19	11·6	80·4	39·7
08	9·8	79·5	40·7	20	11·6	80·8	39·7
09	10·0	78·7	40·5	21	10·7	81·7	39·5
10	10·2	78·9	40·2	22	10·3	83·5	39·8
11	10·3	78·9	40·2	23	10·9	85·2	39·9

Coefficients (A), Approximate Absolute Values (B).

(A)
- Declin. $a = 0'·711$
- H. F. $k = ·00019$, $q = ·00028$
- V. F. $k = ·00085$, $q = ·00002$

(B) Approx.
- $\psi = 23° 16'$
- $X = 5·57$
- $Y = 2·22$
- $\theta = -21° 44'$
- $\phi = 6·00$

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OBSERVATIONS OF THE MAGNETOMETERS. The Declination was observed 2m. before, and the V. F. 1m. after the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
1 05 02	10·8	78·9	59·8	40·4	59·6	−·0006	−·0004	+ 1·3	+ 0·2	−·0006
06 02	10·1	73·6	59·8	40·4	59·6	−·0016	−·0003	+ 0·6	+ 1·5	−·0014
52	10·0	79·8		40·4		−·0003	−·0003	+ 0·5	0·0	−·0003
57	10·0	80·0		40·4		−·0003	−·0003	+ 0·5	0·0	−·0003
07 02	10·0	80·3	59·7	40·4	59·5	−·0002	−·0003	+ 0·5	− 0·1	−·0002
07	10·0	80·3		40·4		−·0002	−·0003	+ 0·5	− 0·1	−·0002
12	10·0	80·2		40·4		−·0002	−·0003	+ 0·4	− 0·1	−·0002
17	10·1	80·0		40·4		−·0003	−·0003	+ 0·5	0·0	−·0003
22	10·2	79·8		40·4		−·0003	−·0003	+ 0·5	0·0	−·0003
27	10·3	79·0		40·4		−·0004	−·0003	+ 0·6	+ 0·1	−·0004
32	10·4	78·2		40·4		−·0005	−·0003	+ 0·6	+ 0·2	−·0005
37	10·3	77·8		40·4		−·0006	−·0003	+ 0·5	+ 0·2	−·0006
42	10·3	77·0		40·4		−·0007	−·0003	+ 0·5	+ 0·5	−·0006
47	10·3	76·9		40·4		−·0007	−·0003	+ 0·4	+ 0·5	−·0006
52	10·4	76·2		40·4		−·0008	−·0003	+ 0·5	+ 0·6	−·0007
57	10·4	—		—		—	—	+ 0·4	—	—
08 02	10·1	75·2	59·8	40·4	59·5	−·0010	−·0003	+ 0·2	+ 0·8	−·0009
07	10·1	75·0		40·4		−·0010	−·0003	+ 0·2	+ 0·8	−·0009
12	10·0	74·9		40·4		−·0011	−·0003	+ 0·1	+ 0·9	−·0010
17	9·9	74·2		40·4		−·0012	−·0003	+ 0·1	+ 0·9	−·0011
22	9·9	74·9		40·4		−·0010	−·0002	0·0	+ 0·9	−·0009
27	10·2	74·9		40·4		−·0010	−·0002	+ 0·2	+ 0·9	−·0009
32	10·2	74·2		40·4		−·0011	−·0002	+ 0·2	+ 0·9	−·0010
37	10·1	74·0		40·4		−·0012	−·0002	+ 0·1	+ 1·2	−·0011
42	10·0	74·0		40·4		−·0012	−·0002	+ 0·1	+ 1·2	−·0011
47	10·0	74·0		40·4		−·0011	−·0002	+ 0·1	+ 0·9	−·0010
52	9·9	74·0		40·4		−·0011	−·0001	− 0·1	+ 1·2	−·0010
57	9·9	74·0		40·4		−·0011	−·0001	− 0·1	+ 1·2	−·0010
09 02	10·0	74·4	59·6	40·6	59·6	−·0011	+·0001	0·0	+ 1·4	−·0009
07	10·2	74·9		40·6		−·0010	+·0001	+ 0·1	+ 1·3	−·0009
12	10·5	75·1		40·7		−·0009	+·0003	+ 0·4	+ 1·4	−·0007
17	10·6	75·1		40·7		−·0009	+·0003	+ 0·4	+ 1·4	−·0007
22	10·3	75·3		40·7		−·0009	+·0003	+ 0·1	+ 1·4	−·0007
27	10·2	75·3		40·7		−·0009	+·0003	+ 0·1	+ 1·4	−·0007
32	10·2	75·9		40·7		−·0008	+·0003	+ 0·1	+ 1·3	−·0007
37	10·1	76·0		40·7		−·0008	+·0003	0·0	+ 1·3	−·0007
42	10·2	76·1		40·7		−·0008	+·0003	+ 0·1	+ 1·3	−·0007
47	10·2	76·2		40·7		−·0008	+·0003	+ 0·1	+ 1·3	−·0007
52	10·4	76·2		40·7		−·0008	+·0004	+ 0·1	+ 1·4	−·0006
57	10·5	76·4		40·7		−·0008	+·0004	+ 0·2	+ 1·4	−·0006
10 02	10·5	77·1	59·3	40·7	59·4	−·0007	+·0004	+ 0·2	+ 1·3	−·0006
07	10·5	77·3		40·7		−·0006	+·0004	+ 0·2	+ 1·2	−·0005
12	10·4	77·9		40·7		−·0005	+·0004	+ 0·1	+ 0·9	−·0004
17	10·9	78·1		40·7		−·0005	+·0004	+ 0·5	+ 0·9	−·0004
22	10·9	78·2		40·7		−·0005	+·0004	+ 0·5	+ 0·9	−·0004
27	10·9	78·8		40·7		−·0003	+·0004	+ 0·5	+ 0·8	−·0002
32	10·9	78·8		40·7		−·0004	+·0004	+ 0·5	+ 0·9	−·0003
37	10·8	78·7		40·7		−·0004	+·0004	+ 0·4	+ 0·9	−·0003
42	10·9	78·6		40·7		−·0004	+·0004	+ 0·4	+ 0·9	−·0003
47	10·9	78·6		40·7		−·0004	+·0004	+ 0·4	+ 0·9	−·0003
52	10·9	78·7		40.7		−·0004	+·0004	+ 0·4	+ 0·9	−·0003
57	10·9	—		—		—	—	+ 0·4	—	—
11 02	10·9	78·7	59·1	40·5	59·3	−·0004	+·0003	+ 0·4	+ 0·8	−·0003
07	10·9	78·7		40·5		−·0004	+·0003	+ 0·4	+ 0·8	−·0003
12	10·8	78·7		40·5		−·0004	+·0003	+ 0·4	+ 0·8	−·0003
17	10·8	78·8		40·5		−·0004	+·0003	+ 0·4	+ 0·8	−·0003
22	10·3	78·8		40·5		−·0004	+·0003	0·0	+ 0·8	−·0003
27	10·3	78·8		40·5		−·0004	+·0003	0·0	+ 0·8	−·0003
32	10·7	78·8		40·5		−·0004	+·0003	+ 0·3	+ 0·8	−·0003
12 02	10·4	78·7	59·0	40·5	59·2	−·0004	+·0003	0·0	+ 0·8	−·0003

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For Mean Monthly Readings, *see* page 252.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
4 18 02	80·7	67·0	50·0	67·9	48·8	−·0010	+·0002	+ 1·4	+ 1·3	+·0001
19 02	81·8	60·8	50·4	79·4	49·0	−·0023	+·0006	+ 3·1	+ 3·1	+·0003
07	81·8	61·0		79·9		−·0023	+·0007	+ 3·1	+ 3·2	+·0004
12	82·0	60·6		78·1		−·0024	+·0006	+ 3·4	+ 3·2	+·0003
17	81·2	59·9		77·9		−·0026	+·0006	+ 2·9	+ 3·5	+·0003
22	81·2	59·7		77·9		−·0026	+·0006	+ 3·1	+ 3·5	+·0003
27	81·0	59·2		76·7		−·0027	+·0006	+ 3·0	+ 3·6	+·0002
32	80·0	60·0		76·9		−·0026	+·0006	+ 2·3	+ 3·5	+·0003
37	80·1	59·4		75·0		−·0027	+·0005	+ 2·6	+ 3·5	+·0002
42	79·2	58·9		75·3		−·0028	+·0006	+ 2·0	+ 3·7	+·0002
47	78·9	59·6		75·0		−·0027	+·0006	+ 1·9	+ 3·6	+·0002
52	79·5	60·3		69·8		−·0025	+·0004	+ 2·4	+ 3·1	+·0001
20 02	80·0	61·7	50·4	69·1	49·4	−·0022	+·0004	+ 2·9	+ 2·8	+·0001
18 21 02	74·2	72·1	52·2	41·9	51·4	+·0006	−·0002	− 0·2	− 0·9	−·0001
22 02	68·2	63·7	52·3	51·5	51·3	−·0013	+·0003	− 3·2	+ 1·7	+·0001
23 02	60·6	72·2	52·3	29·9	51·4	+·0007	−·0005	− 7·7	− 1·3	−·0004
07	62·8	71·4		31·9		+·0005	−·0004	− 6·1	− 1·0	−·0003
12	64·2	68·5		34·7		−·0002	−·0003	− 5·1	+ 0·1	−·0003
17	63·8	68·0		34·9		−·0003	−·0003	− 5·4	0·0	−·0003
22	65·2	67·7		42·0		−·0004	−·0001	− 4 4	+ 0·3	+·0001
27	66·0	66·5		45·0		−·0006	·0000	− 3·8	+ 0·7	+·0001
32	66·2	66·4		48·9		−·0007	+·0002	− 3·7	+ 1·0	+·0001
37	68·0	66·4		50·1		−·0007	+·0002	− 2·5	+ 1·0	+·0001
42	70·0	65·0		53·4		−·0010	+·0003	− 1·1	+ 1·4	+·0002
47	70·1	64·5		54·1		−·0011	+·0004	− 1·0	+ 1·6	+·0002
52	68·9	64·9		52·1		−·0010	+·0003	− 1·9	+ 1·4	+·0002
57	68·3	65·0		52·5		−·0010	+·0003	− 2·3	+ 1·4	+·0002
19 00 02	68·7	66·1	52·5	50·6	51·6	−·0007	+·0002	− 2·0	+ 1·0	+·0001
07	66·9	68·9		45·3		−·0001	·0000	− 3·3	+ 0·1	·0000
12	65·0	72·1		44·5		+·0007	·0000	− 4·6	− 0·8	+·0001
17	69·1	73·1		39·5		+·0009	−·0002	− 1·7	− 1·2	−·0001
22	72·4	74·7		38·5		+·0013	−·0002	− 0·6	− 1·6	·0000
27	—	74·1		36·7		+·0012	−·0002	—	− 1·5	−·0001
32	76·5	73·3		36·0		+·0010	−·0002	+ 3·6	− 1·3	−·0001
37	72·9	72·2		31·1		+·0007	−·0004	+ 1·1	− 1·2	−·0003
42	70·2	72·2		31·4		+·0007	−·0004	− 0·9	− 1·2	−·0003
47	69·8	72·5		32·2		+·0008	−·0003	− 1·1	− 1·2	−·0002
52	69·6	71·4		32·7		+·0006	−·0003	− 1·3	− 1·0	−·0002
57	68·7	72·8		32·3		+·0009	−·0003	− 1·7	− 1·3	−·0002
01 02	67·5	74·0	52·9	29·1	51·8	+·0012	−·0004	− 2·8	− 1·7	−·0002
12	67·1	75·4		30·0		+·0014	−·0004	− 3·0	− 1·9	−·0002
17	70·1	73·5		30·4		+·0010	−·0004	− 0·9	− 1·5	−·0003
22	70·4	71·6		31·7		+·0005	−·0003	− 0·6	− 0·9	−·0002
27	69·7	70·5		33·7		+·0002	−·0002	− 1·1	− 0·4	−·0002
32	69·5	70·0		35·4		+·0001	−·0002	− 1·2	− 0·3	−·0002
37	69·3	70·2		37·1		+·0001	−·0001	− 1·4	− 0·2	−·0001
42	69·8	70·3		39·7		+·0001	·0000	− 1·0	− 0·1	·0000
47	70·8	69·8		39·7		·0000	·0000	− 0·3	0·0	·0000
52	71·1	69·1		41·7		−·0002	+·0001	0·0	+ 0·3	+·0001
57	70 5	69·0		42·8		−·0002	+·0001	− 0·4	+ 0·3	+·0001
02 02	71·1	68·5	53·0	41·0	52·0	−·0004	+·0001	0·0	+ 0·4	·0000
07	71·1	68·3		42·7		−·0004	+·0001	0·0	+ 0·4	·0000
12	71·6	68·3		44·0		−·0004	+·0002	+ 0·4	+ 0·7	+·0001
17	71·7	68·1		43·6		−·0004	+·0002	+ 0·4	+ 0·7	+·0001
22	71·8	68·3		44·4		−·0004	+·0002	+ 0·5	+ 0·7	+·0001
27	72·0	68·8		44·4		−·0003	+.0002	+ 0·6	+ 0·4	+·0001
32	72·2	68·6		44·4		−·0003	+·0002	+ 0·8	+ 0·4	+·0001
37	72·2	68·3		44·8		−·0004	+·0002	+ 0·7	+ 0·7	+·0001
42	72·1	68·5		40·5		−·0004	+·0001	+ 0·6	+ 0·4	·0000

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Van Diemen Island.

September 19, 20.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
19 02 47	72·2	68·8		42·7		−·0003	+·0001	+ 0·7	+ 0·4	+·0001
52	72·3	—		—		—	—	+ 0·8	—	—
03 02	72·1	68·4	53·2	42·0	52·1	−·0004	+·0001	+ 0·6	+ 0·6	·0000
20 10 02	71·5	70·8	50·9	44·8	49·7	−·0001	−·0001	+ 0·3	0·0	−·0001
07	71·2	70·7		43·8		−·0001	−·0001	+ 0·2	0·0	−·0001
12	70·9	70·6		44·3		−·0001	−·0001	+ 0·1	0·0	−·0001
17	70·5	70·6		44·0		−·0001	−·0001	− 0·1	0·0	−·0001
22	70·6	70·5		45·8		− 0001	·0000	+ 0·1	+ 0·1	·0000
27	70·4	70·2		43·6		−·0001	−·0001	− 0·1	0·0	−·0001
32	69·9	69·9		45·1		−·0002	·0000	− 0·2	+ 0·2	−·0002
37	70·0	70·1		44·1		−·0001	−·0001	0·0	0·0	−·0001
42	69·2	70·3		44·6		−·0001	·0000	− 0·5	+ 0·1	·0000
47	69·6	70·2		44·7		−·0001	·0000	− 0·1	+ 0·1	·0000
52	69·5	70·2		45·2		−·0001	·0000	− 0·1	+ 0·1	·0000
57	69·3	70·0		44·7		−·0001	·0000	− 0·1	+ 0·1	·0000
11 02	69·0	70·4	51·0	44·7	49·7	·0000	·0000	− 0·2	0·0	·0000
07	69·3	70·3		43·4		·0000	−·0001	0·0	− 0·1	−·0001
12	69·2	70·2		44·3		·0000	·0000	0·0	0·0	·0000
17	69·4	70·1		45·0		·0000	·0000	+ 0·1	0 0	·0000
22	68·9	70·1		41·6		·0000	−·0001	− 0·1	− 0·1	−·0001
27	68·5	70·1		42·4		+·0001	−·0001	− 0·4	− 0·2	−·0001
32	68·4	69·7		43·6		·0000	−·0001	− 0·5	− 0·1	−·0001
37	68·4	69·8		41·9		·0000	−·0001	− 0·4	− 0·1	−·0001
42	68·4	69·7		42·7		·0000	−·0001	− 0·4	− 0·1	−·0001
47	67·8	69·7		41·8		·0000	−·0001	− 0·8	− 0·1	−·0001
52	68·0	69·9		42·4		+·0001	−·0001	− 0·6	− 0·2	−·0001
57	68·1	69·7		42·4		+·0001	−·0001	− 0·5	− 0·2	−·0001
12 02	68·2	69·7	51·2	43·0	49·8	+·0001	−·0001	− 0·4	− 0·2	−·0001
07	68·4	69·5		41·8		+·0001	−·0001	− 0·4	− 0·2	−·0001
12	68·5	69·5		44·2		+·0001	·0000	− 0·4	− 0·1	·0000
17	68·9	69·3		44·5		+·0001	·0000	− 0·1	− 0·1	·0000
22	69·0	69·5		43·9		+·0002	·0000	− 0·1	− 0 2	·0000
27	69·3	69·0		42·7		+·0001	·0000	+ 0·1	− 0·1	·0000
32	69·3	69·0		44·5		+·0001	·0000	0·0	− 0·1	·0000
37	69·3	68·8		45·0		+·0001	·0000	− 0·1	− 0·1	·0000
42	70·0	68·6		45·6		+·0001	+·0001	+ 0·4	0·0	+·0001
47	70·2	68·8		46·1		+·0001	+·0001	+ 0·5	0·0	+·0001
52	70·6	68·2		45·3		·0000	+·0001	+ 0·7	+ 0·1	+·0001
57	70·4	68·3		45·3		+·0001	+·0001	+ 0·5	0·0	+·0001
13 02	71·2	68·4	51·5	47·5	50·2	+·0001	+·0001	+ 1·0	0·0	+·0001
07	71·4	67·9		47·0		·0000	+·0001	+ 1·0	+ 0·1	+·0001
12	71·1	67·9		47·0		+·0001	+·0001	+ 0·6	0·0	+·0001
17	71·0	68·1		45·9		+·0001	+·0001	+ 0·4	0·0	+·0001
22	71·3	68·5		46·9		+·0003	+·0001	+ 0·5	− 0·2	+·0001
27	71·3	68·3		47·2		+·0002	+·0001	+ 0·4	− 0·1	+·0001
32	71·5	68·1		46·5		+·0002	·0000	+ 0·4	− 0·2	·0000
37	71·5	67·6		47·9		+·0001	+·0001	+ 0·2	0·0	+·0001
42	71·6	67·5		47·9		+·0001	+·0001	+ 0·1	0·0	+·0001
47	72·3	67·2		49·0		+·0001	+·0001	+ 0·5	0·0	+·0001
52	72·0	67·0		49·3		+·0001	+·0001	+ 0·1	0 0	+·0001
57	72·4	66·7		50·5		·0000	+·0001	+ 0·3	+ 0·1	+·0001
14 02	72·9	66·5	52·0	51·4	50·5	·0000	+·0002	+ 0·5	+ 0·2	+·0002
07	73·0	66·6		50·1		·0000	+·0001	+ 0·4	+ 0·1	+·0001
12	73·0	66·0		51·3		−·0001	+·0001	+ 0·1	+ 0·2	+·0001
17	72·8	64·2		52·2		−·0005	+·0002	− 0·1	+ 0·8	+·0001
22	72·7	62·7		55·2		−·0011	+·0003	− 0·4	+ 1·5	+·0002
27	73·3	61·2		59·0		−·0012	+·0004	− 0·2	+ 1·7	+·0002
32	74·6	62·0		63·4		−·0010	+·0006	+ 0·5	+ 1·7	+·0004
37	75·9	62·8		63·4		−·0008	+·0006	+ 2·0	+ 1·5	+·0005
42	75·9	62·1		61·2		−·0010	+·0005	+ 1·1	+ 1·6	+·0003
47	75·9	62·9		62·2		−·0008	+·0005	+ 0·8	+ 1·4	+·0004

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OBSERVATIONS OF THE MAGNETOMETERS. The Declination was observed 2m. before, and the V. F. 1m. after the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
20 14 52	76·0	63·5		60·4		−·0006	+·0005	+ 0·7	+ 1·2	+·0004
57	76·7	63 9		59·9		−·0006	+·0005	+ 1·1	+ 1·2	+·0004
15 02	77·0	64·9	52·0	58·2	51·0	−·0003	+·0004	+ 1·1	+ 0·8	+·0003
07	76·9	65·0		55·2		−·0003	+·0003	+ 0·8	+ 0·7	+·0002
12	77·1	65·1		55·3		−·0003	+·0003	+ 0·8	+ 0·7	+·0002
17	77·1	65·8		55·1		−·0001	+·0003	+ 0·7	+ 0·4	+·0003
22	77·0	66·1		51·6		·0000	+·0001	+ 0·5	+ 0·1	+·0001
27	76·9	66·8		49·9		+·0001	+·0001	+ 0·3	0·0	+·0001
32	76·8	67·4		48·5		+·0003	·0000	+ 0·1	− 0·3	+·0001
37	76·8	67·5		47·7		+·0003	·0000	0·0	− 0·3	+·0001
42	76·7	67·7		47·4		+·0003	·0000	− 0·2	− 0·3	+·0001
47	76·8	68·1		46·6		+·0004	−·0001	− 0·3	− 0·6	·0000
52	76·9	67·8		47·3		+·0004	·0000	− 0·4	− 0·4	·0000
57	76·7	68·2		46·9		+·0004	−·0001	− 0·6	− 0·6	·0000
16 02	76·9	67·8	52·7	46·9	51·2	+·0003	−·0001	− 0·6	− 0·4	−·0001
07	77·1	67·6		47·6		+·0003	·0000	− 0·6	− 0·3	+·0001
12	77·0	67·5		48·4		+·0002	·0000	− 0·7	− 0·2	·0000
17	77·2	67·5		48·4		+·0002	·0000	− 0·6	− 0·2	·0000
22	77·5	67·4		48·4		+·0002	·0000	− 0·5	− 0·2	·0000
27	77·3	67·4		48·0		+·0002	·0000	− 0·7	− 0·2	·0000
32	77·2	67·6		48·0		+·0002	+·0001	− 0·8	− 0·1	+·0001
37	77·3	68·0		46·5		+·0003	·0000	− 0·8	− 0·3	+·0001
42	77·3	67·9		45·6		+·0003	·0000	− 0·9	− 0·3	+·0001
47	77·4	68·4		44·8		+·0004	−·0001	− 0·9	− 0·6	·0000
52	77·3	68·3		44·3		+·0004	−·0001	− 1·1	− 0·6	·0000
57	77·5	69·4		45·5		+·0004	·0000	− 1·0	− 0·4	·0000
17 02	77·3	68·6	53·3	45·5	51·8	+·0004	·0000	− 1·2	− 0·4	·0000
07	77·2	69·0		44·1		+·0004	·0000	− 1·3	− 0·4	·0000
12	77·0	68·9		44·8		+·0004	·0000	− 1·3	− 0·4	·0000
17	77·0	68·5		44·6		+·0003	·0000	− 1·3	− 0·3	+·0001
22	76·8	67·8		45·8		+·0001	·0000	− 1·5	− 0·1	·0000
27	76·9	67·5		45·8		+·0001	·0000	− 1·4	− 0·1	·0000
32	76·8	67·0		46·5		−·0001	+·0001	− 1·4	+ 0·2	+·0001
37	76·9	67·2		47·0		−·0001	+·0001	− 1·3	+ 0·2	+·0001
42	77·0	67·0		47·0		−·0001	+·0001	− 1·3	+ 0·2	+·0001
47	76·9	67·3		47·0		−·0001	+·0001	− 1·3	+ 0·2	+·0001
52	76·7	66·6		46·9		−·0001	+·0001	− 1·4	+ 0·2	+·0001
57	77·1	66·3		46·9		−·0004	+·0001	− 1·1	+ 0·6	·0000
18 02	75·8	66·8	53·7	46·7	52·0	−·0002	−·0001	− 2·0	+ 0·1	−·0001
07	75·8	66·8		45·9		−·0002	−·0001	− 2·0	+ 0·1	−·0001
12	75·3	66·6		45·8		−·0003	−·0002	− 2·2	+ 0·1	−·0002
17	75·1	66·5		45·8		−·0003	−·0002	− 2·3	+ 0·1	−·0002
22	75·4	66·7		44·9		−·0002	−·0002	− 2·0	0·0	−·0002
27	74·9	66·8		46·1		−·0002	−·0001	− 2·3	+ 0·1	−·0001
32	74·9	67·0		46·1		−·0001	−·0001	− 2·2	0·0	−·0001
37	75·1	66·9		45·9		−·0001	−·0002	− 2·0	− 0·1	−·0002
42	75·1	66·1		45·7		−·0003	−·0002	− 2·0	+ 0·1	−·0002
47	75·2	65·8		47·3		−·0004	−·0001	− 1·8	+ 0·3	−·0002
52	75·8	66·0		47·3		−·0001	−·0001	− 1·3	0·0	−·0001
57	75·7	66·2		47·3		−·0002	−·0001	− 1·3	+ 0·1	−·0001
19 02	75·8	66·5	54·2	47·5	54·7	−·0001	−·0001	− 1·2	0·0	−·0001
07	75·5	66·8		46·7		−·0001	−·0001	− 1·3	0·0	−·0001
12	75·5	67·4		43·5		+·0001	−·0002	− 1·2	− 0·3	−·0001
17	75·4	67·6		43·2		+·0001	−·0003	− 1·2	− 0·4	−·0003
22	75·8	67·3		42·8		+·0001	−·0003	− 0·8	− 0·4	−·0003
27	75·5	67·3		44·2		·0000	−·0002	− 0·9	− 0·2	−·0002
32	75·6	67·8		40·9		+·0001	−·0003	− 0·8	− 0·4	−·0003
37	75·5	67·9		40·9		+·0002	−·0003	− 0·7	− 0·6	−·0002
42	75·2	67·7		40·8		+·0001	−·0003	− 0·8	− 0·4	−·0003
47	75·2	68·2		39·7		+·0002	−·0004	− 0·7	− 0·7	−·0003
52	75·2	68·4		39·7		+·0003	−·0003	− 0·6	− 0·7	−·0002
57	75·2	68·5		38·4		+·0003	−·0004	− 0·5	− 0·8	−·0003
20 02	74·7	67·6	54·5	38·7	53·0	+·0001	−·0004	− 0·8	− 0·6	−·0003
07	74·6	68·5		38·2		+·0003	−·0004	− 0·8	− 0·8	−·0003

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OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before and the V. F. 1m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
						$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
20 20 12	74·4	69·1		37·8		+·0004	−·0004	− 0·8	− 0·9	−·0003
17	74·5	69·3		38·0		+·0005	−·0004	− 0·7	− 1·0	−·0003
22	74·8	69·5		36·3		+·0005	−·0005	− 0·4	− 1·1	−·0004
27	74·5	69·2		34·9		+·0004	−·0005	− 0·6	− 1·0	−·0004
32	74·1	69·2		34·9		+·0004	−·0005	− 0·8	− 1·0	−·0004
37	74·1	69·2		36 3		+·0004	−·0004	− 0·6	− 0·9	−·0003
42	74·1	69·2		35·0		+·0004	−·0005	− 0·6	− 1·0	−·0004
47	73·9	69·4		35·7		+·0005	−·0005	− 0·6	− 1·1	−·0004
52	73·8	69·5		36·2		+·0005	−·0004	− 0·6	− 1·0	−·0003
57	73·6	69·5		36·2		+·0005	−·0004	− 0·7	− 1·0	−·0003
21 02	73·6	69·8	54·7	36·0	53 3	+·0006	−·0004	− 0·6	− 1·1	−·0003
07	73·5	69·8		35·3		+·0006	−·0005	− 0·6	− 1·2	−·0004
12	73·9	69·6		35 0		+·0006	−·0005	− 0·2	− 1·2	−·0004
17	73·5	69·9		35·2		+·0006	−·0005	− 0·4	− 1·2	−·0004
22	73·6	70·3		34·3		+·0007	−·0005	− 0·2	− 1·3	−·0004
27	73·0	70·5		32·7		+·0008	−·0005	− 0·5	− 1·4	−·0004
32	72·2	70·6		32·3		+·0009	−·0005	− 1·0	− 1·5	−·0004
37	71·7	70·5		32·3		+·0008	−·0005	− 1·2	− 1·4	−·0004
42	71·8	69·6		32·6		+·0006	−·0005	− 1·1	− 1·2	−·0004
47	71·9	68·0		34·6		+·0003	−·0004	− 0·8	− 0·8	−·0003
52	71·8	67·5		36·3		+·0002	−·0004	− 0·8	− 0 7	−·0003
57	71·9	66·6		38·5		·0000	−·0003	− 0·6	− 0·3	−·0002
22 02	71·9	66·6	55·0	40·1	53·8	·0000	−·0002	− 0·6	− 0·2	−·0002
07	72·2	66·6		40·3		·0000	−·0002	− 0·3	− 0·2	−·0002
12	72·0	66 6		40·3		·0000	−·0002	− 0·4	− 0·2	−·0002
17	71·8	66·9		40·3		+·0001	−·0002	− 0·4	− 0·3	−·0002
22	72·1	67·3		39·8		+·0001	−·0003	− 0·1	− 0·4	−·0003
27	72·1	67·5		38·0		+·0002	−·0003	− 0·1	− 0·6	−·0002
32	69·4	66·3		35·4		−·0001	−·0004	− 1·9	− 0·3	−·0003
37	66·6	65·5		33·5		−·0003	−·0005	− 3·8	− 0·2	−·0005
42	63·4	66·2		31·1		−·0001	−·0006	− 6·0	− 0·6	−·0005
47	61·5	68·3		30·2		+·0004	−·0006	− 7·2	− 1·1	−·0005
52	62·1	69·6		28·6		+·0007	−·0007	− 6·8	− 1·5	−·0006
57	63·4	69·5		27·8		+·0006	−·0007	− 5·8	− 1·4	−·0006
23 02	64·5	68·8	55·0	29·7	54·0	+·0005	−·0006	− 4·9	− 1·2	−·0005
07	66·0	68·6		30·4		+·0004	−·0006	− 3·9	− 1·1	−·0005
12	66·9	69·1		31·3		+·0003	−·0006	− 3·2	− 1·0	−·0005
17	67·6	69·7		30·8		+·0007	−·0006	− 2·7	− 1·4	−·0005
22	67·8	70·2		31·2		+·0008	−·0006	− 2·5	− 1·5	−·0005
27	68·0	70·8		30·3		+·0009	−·0006	− 2·4	− 1·6	−·0004
32	68·8	71·4		29·8		+·0011	−·0006	− 1·8	− 1·8	−·0004
37	69·1	71·5		29·6		+·0011	−·0006	− 1·7	− 1·8	−·0004
42	69·3	71·4		29·3		+·0011	−·0007	− 1·5	− 1·9	−·0005
47	69·4	71·0		29·7		+·0010	−·0006	− 1·5	− 1·7	−·0004
52	69·5	70·7		30·4		+·0009	−·0006	− 1·4	− 1·6	−·0004
57	69·4	70·5		30·4		+·0008	−·0006	− 1·5	− 1·5	−·0005
21 00 02	69·3	70·3	55·0	31·0	54·0	+·0008	−·0006	− 1·5	− 1·5	−·0005
07	68·9	69·7		31·9		+·0006	−·0006	− 1·8	− 1·3	−·0005
12	68·9	69·8		32·7		+·0007	−·0005	− 1·8	− 1·3	−·0004
17	69·9	69·7		33·8		+·0006	−·0005	− 1·1	− 1·2	−·0004
22	69·9	69·5		33·8		+·0006	−·0005	− 1·1	− 1·2	−·0004
27	70·1	69·5		34·8		+·0006	−·0004	− 1·0	− 1·1	−·0003
32	70·2	69·4		35·3		+·0006	−·0004	− 0·9	− 1·1	−·0003
37	69 9	69·5		34·7		+·0006	−·0004	− 1·1	− 1·1	−·0003
42	70·7	69·3		35·3		+·0006	−·0004	− 0·5	− 1·1	−·0003
47	71·1	69·5		36·2		+·0006	−·0004	− 0·2	− 1·1	−·0003
52	70·7	69·9		35·2		+·0007	−·0004	− 0·5	− 1·2	−·0003
57	70·5	69·1		35·2		+·0007	−·0004	− 0·6	− 1·2	−·0003
01 02	70·6	68·3	55·0	36·3	54·0	+·0003	−·0003	− 0·6	− 0·7	−·0002
07	70·7	68·1		37·5		+·0003	−·0003	− 0·5	− 0·7	−·0002
12	70·7	68·5		38·2		+·0003	−·0003	− 0·4	− 0·7	−·0002
17	71·1	68·6		37·7		+·0003	−·0003	− 0·1	− 0·7	−·0002

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OBSERVATIONS OF THE MAGNETOMETERS. The Declination was observed 2m. before, and the V. F. 1m. after the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta \psi$	$\Delta \theta$	$\frac{\Delta \phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
21 01 22	71·1	68·5		37·7		+·0003	−·0003	− 0·1	− 0·7	−·0002
27	71·2	68·2		39·7		+·0002	−·0002	− 0·1	− 0·4	−·0002
32	71·7	71·3		37·6		+·0009	−·0003	+ 0·4	− 1·3	−·0002
37	72·4	72·1		34·1		+·0010	−·0004	+ 0·8	− 1·5	−·0003
42	73·3	70·9		33·6		+·0007	−·0004	+ 1·5	− 1·2	−·0003
47	72·0	70·7		32·2		+·0006	−·0005	+ 0·6	− 1·2	−·0004
52	70·7	70·0		32·9		+·0005	−·0004	− 0·3	− 1·0	−·0003
57	70·8	70·0		33·3		+·0004	−·0004	− 0·2	− 0·9	−·0003
02 02	71·1	70·2	55·0	34·3	53·8	+·0005	−·0004	0·0	− 1·0	−·0003
07	71·8	70·4		34·9		+·0005	−·0004	+ 0·5	− 1·0	−·0003
12	72·2	71·2		34·1		+·0007	−·0004	+ 0·8	− 1·2	−·0003
17	72·6	72·0		33·3		+·0009	−·0004	+ 1·1	− 1·4	−·0003
22	72·4	72·2		31·7		+·0009	−·0005	+ 0·9	− 1·5	−·0004
27	71·7	72·3		29·6		+·0010	−·0006	+ 0·4	− 1·7	−·0004
32	71·7	72·0		28·4		+·0009	−·0006	+ 0·4	− 1·6	−·0004
37	69·8	71·7		28·4		+·0008	−·0006	− 1·0	− 1·5	−·0005
42	69·0	71·3		28·6		+·0007	−·0006	− 1·5	− 1·4	−·0005
47	68·9	70·7		30·3		+·0006	−·0005	− 1·6	− 1·2	−·0004
52	69·8	70·5		31·6		+·0005	−·0005	− 1·0	− 1·1	−·0004
57	70·5	70·1		33·1		+·0004	−·0004	− 0·5	− 0·9	−·0003
03 02	71·5	69·9	54·8	34·2	53·8	+·0004	−·0004	+ 0·2	− 0·9	−·0003
07	71·8	69·7		35·3		+·0003	−·0004	+ 0·4	− 0·8	−·0003
12	72·2	69·5		36·1		+·0003	−·0003	+ 0·6	− 0·7	−·0002
17	72·8	69·9		36·7		+·0004	−·0003	+ 1·0	− 0·8	−·0002
22	73·3	70·0		36·4		+ 0004	−·0003	+ 1·3	− 0·8	−·0002
27	73·1	70·0		35·9		+·0005	−·0004	+ 1·1	− 1·0	−·0003
32	72·7	70·1		35·3		+·0005	−·0004	+ 0·7	− 1·0	−·0003
37	72·2	70·0		35·2		+·0005	−·0004	+ 0·4	− 1·0	−·0003
42	72·5	70·2		35·6		+·0005	−·0003	+ 0·5	− 0·9	−·0002
47	72·8	70·1		35·1		+·0005	−·0004	+ 0·6	− 1·0	−·0003
52	72·8	70·0		35·4		+·0005	−·0004	+ 0·6	− 1·0	−·0003
57	73·2	—		—		—	—	+ 2·2	—	—
04 02	73·8	70·1	54·7	34·9	53·7	+·0006	−·0004	+ 1·2	− 1·1	−·0003
07	73·4	70·4		35·1		+·0006	−·0004	+ 0·8	− 1·1	−·0003
12	73·7	70·6		34·9		+·0007	−·0004	+ 1·0	− 1·2	−·0003
17	74·0	70·4		34·7		+·0006	−·0004	+ 1·2	− 1·1	−·0003
22	74·1	69·6		35·4		+·0004	−·0004	+ 1·2	− 0·9	−·0003
27	74·4	70·0		35·8		+·0005	−·0004	+ 1·3	− 1·0	−·0003
32	74·2	70·0		35·5		+·0005	−·0004	+ 1·1	− 1·0	−·0003
37	73·8	70·0		35·5		+·0005	−·0004	+ 0·8	− 1·0	−·0003
42	74·0	69·7		36·8		+·0004	−·0003	+ 0·9	− 0·8	−·0002
47	75·9	70·4		37·4		+·0006	−·0003	+ 2·2	− 1·0	−·0002
52	76·7	70·4		37·0		+·0005	−·0003	+ 2·7	− 0·9	−·0002
57	76·8	70·2		37·0		+·0005	−·0003	+ 2·7	− 0·9	−·0002
05 02	76·9	70·7	54·5	35·9	53·6	+·0006	−·0004	+ 2·7	− 1·1	−·0003
07	76·9	71·0		35·9		+·0006	−·0003	+ 2·7	− 1·0	−·0002
12	76·8	71·2		34·4		+·0007	−·0004	+ 2·7	− 1·2	−·0003
17	76·2	71·2		33·5		+·0007	−·0004	+ 2·2	− 1·2	−·0003
22	76·5	71·2		33·7		+·0007	−·0004	+ 2·5	− 1·2	−·0003
27	76·7	71·0		33·7		+·0006	−·0004	+ 2·6	− 1·1	−·0003
32	76·4	71·0		34·2		+·0006	−·0004	+ 2·4	− 1·1	−·0003
37	77·1	71·0		35·3		+·0006	−·0003	+ 2·8	− 1·0	−·0002
42	78·0	70·9		36·1		+·0006	−·0003	+ 3·4	− 1·0	−·0002
47	79·3	71·0		34·9		+·0006	−·0003	+ 4·4	− 1·0	−·0002
52	78·9	71·1		35·3		+·0007	−·0003	+ 4·2	− 1·1	−·0002
57	79·0	71·1		34·6		+·0007	−·0004	+ 4·2	− 1·2	−·0003
06 02	79·1	71·1	54·2	35·4	53·5	+·0007	−·0003	+ 4·3	− 1·1	−·0002
07	79·2	71·0		34·8		+·0006	−·0003	+ 4·4	− 1·0	−·0002
12	79·4	71·3		35·5		+·0007	−·0003	+ 4·5	− 1·1	−·0002
17	79·6	71·3		33·5		+·0007	−·0004	+ 4·7	− 1·2	−·0003
22	78·9	71·4		34·0		+·0007	−·0003	+ 4·2	− 1·1	−·0002
27	79·0	71·3		33·0		+·0007	−·0004	+ 4·2	− 1·2	−·0003

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OBSERVATIONS OF THE MAGNETOMETERS. The Declination was observed 2m. before, and the V. F. 1m. after the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
21 06 32	77·8	71·3		31·9		+·0007	−·0004	+ 3·3	− 1·2	−·0003
37	76·7	71·5		32·0		+·0008	−·0004	+ 2·5	− 1·3	−·0003
42	77·0	71·9		31·2		+·0009	−·0004	+ 2·7	− 1·4	−·0003
47	77·0	72·0		30·5		+·0009	−·0004	+ 2·7	− 1·4	−·0003
52	76·8	71·7		31·0		+·0008	−·0004	+ 2·5	− 1·3	−·0003
57	76·3	72·1		30·4		+·0009	−·0004	+ 2·2	− 1·4	−·0003
07 02	76·3	71·7	54·2	30·7	53·2	+·0008	−·0004	+ 2·2	− 1·3	−·0003
07	77·3	70·9		34·3		+·0006	−·0003	+ 2·9	− 1·0	−·0002
12	79·4	69·8		36·8		+·0004	−·0002	+ 4 4	− 0·7	−·0001
17	80·3	69·7		39·4		+·0004	−·0001	+ 5·1	− 0·6	·0000
22	81·6	69·7		40·7		+·0004	−·0001	+ 6·1	− 0·6	·0000
27	81·7	69·7		39 7		+·0004	−·0001	+ 6·1	− 0·6	·0000
32	80·9	69·7		39·0		+·0004	−·0001	+ 5·6	− 0·6	·0000
37	80·5	69·6		38·5		+·0003	−·0001	+ 5·3	− 0·4	−·0001
42	79·9	69·8		37·4		+·0004	−·0001	+ 4·9	− 0·6	·0000
47	79·7	69 8		35·4		+·0004	−·0002	+ 4·7	− 0·7	−·0001
52	79·5	70·0		34·2		+·0004	−·0003	+ 4·7	− 0·8	−·0002
57	79·2	70·0		34·0		+·0004	−·0003	+ 4·4	− 0·8	−·0002
08 02	79·0	69·9	54·2	33·3	53·2	+·0004	−·0003	+ 4·3	− 0·8	−·0002
07	78·4	69·7		32·0		+·0003	−·0003	+ 4·0	− 0·7	−·0002
12	77·5	69·6		31·4		+·0003	− 0003	+ 3·2	− 0·7	−·0002
17	77·3	70·0		31·4		+·0004	−·0003	+ 3·2	− 0·8	−·0002
22	77·3	70·3		31·2		+·0005	−·0003	+ 3·2	− 0·9	−·0002
27	76·7	70·5		30·6		+·0005	−·0004	+ 2·8	− 1·0	−·0003
32	76·5	70·5		30·0		+·0005	−·0004	+ 2·7	− 1·0	−·0003
37	76·1	70·7		29·5		+·0006	−·0004	+ 2·5	− 1·1	−·0003
42	75·3	70·6		28·3		+·0005	−·0004	+ 2·0	− 1·0	−·0003
47	74·4	71·0		28·4		+·0006	−·0004	+ 1·3	− 1·1	−·0003
52	74·0	71·0		27·2		+·0006	−·0005	+ 1·1	− 1·2	−·0004
57	74·0	71·2		26·0		+·0007	−·0005	+ 1·1	− 1·3	−·0004
09 02	73·6	71·3	54·0	25·8	53·0	+·0007	−·0005	+ 0·9	− 1·3	−·0004
07	73·5	71·5		25·8		+·0007	−·0005	+ 0·9	− 1·3	−·0004
12	73·5	70·9		25·8		+·0006	−·0005	+ 1·0	− 1·2	−·0004
17	73·1	70·9		25·8		+·0006	−·0005	+ 0·8	− 1·2	−·0004
22	73·0	70·9		26·4		+·0006	−·0005	+ 0·8	− 1·2	−·0004
27	73·0	70·8		26·4		+·0006	−·0005	+ 0·8	− 1·2	−·0004
32	72·7	70·9		26·8		+·0006	−·0005	+ 0·7	− 1·2	−·0004
37	72·5	71·0		27·1		+ 0007	−·0004	+ 0·6	− 1·2	−·0003
42	72·1	71·5		27·7		+·0008	−·0004	+ 0·4	− 1·3	−·0003
47	71·1	71·5		27·7		+·0008	−·0004	− 0·2	− 1·3	− 0003
52	71·6	71·5		28·5		+·0008	−·0004	+ 0·2	− 1·3	−·0003
57	70·4	71·4		28·7		+·0008	−·0004	− 0·6	− 1·3	−·0003

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For Mean Monthly Readings, *see* page 253.

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20 10 02	10·0	76·8	61·9	40·1	62·0	−·0008	−·0001	− 0·1	+ 0·8	−·0007
07	10·0	76·9		40·1		−·0008	−·0001	− 0·1	+ 0·8	−·0007
12	10·0	77·0		40·1		−·0008	−·0001	− 0·1	+ 0·8	−·0007
17	10·1	77·2		40·1		−·0007	−·0001	− 0·1	+ 0·7	−·0006
22	10·1	77·2		40·1		−·0007	−·0001	− 0·1	+ 0·7	−·0006
27	10·1	77·8		40·1		−·0006	−·0001	− 0·1	+ 0·6	−·0005
32	10·2	77·9		40·1		−·0006	−·0001	0·0	+ 0·6	−·0005
37	10·4	78·0		40·1		−·0006	−·0001	+ 0·1	+ 0·6	−·0005
42	10·4	78·0		40·1		−·0006	−·0001	+ 0·1	+ 0·6	−·0005
47	10·4	78·0		40·1		−·0006	−·0001	+ 0·1	+ 0·6	−·0005
52	10·4	78·0		40·1		−·0006	−·0001	+ 0·1	+ 0·6	−·0005
57	10·4	78·0		40·1		−·0006	−·0001	+ 0·1	+ 0·6	−·0005
11 02	10·4	78·0	61·9	40·1	62·0	−·0006	−·0001	+ 0·1	+ 0·6	−·0005
07	10·4	78·0		40·1		−·0006	−·0001	+ 0·1	+ 0·6	−·0005
12	10·4	78·0		40·1		−·0006	−·0001	+ 0·1	+ 0·6	−·0005

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OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
20 11 17	10·4	78·0		40·1		−·0006	−·0001	+ 0·1	+ 0·6	−·0005
22	10·3	78·0		40·1		−·0006	−·0001	0·0	+ 0·6	−·0005
27	10·3	78·0		40·1		−·0006	−·0001	0·0	+ 0·6	−·0005
32	10·4	78·0		40·1		−·0006	−·0001	+ 0·1	+ 0·6	−·0005
37	10·4	78·0		40·1		−·0006	·0000	0·0	+ 0·7	−·0005
42	10·4	78·0		40·1		−·0006	·0000	0·0	+ 0·7	−·0005
47	10·3	78·2		40·1		−·0006	·0000	− 0·1	+ 0·7	−·0005
52	10·4	78·6		40·1		−·0005	·0000	0·0	+ 0·6	−·0004
57	10·4	78·7		40·1		−·0005	·0000	0·0	+ 0·6	−·0004
12 02	10·4	78·6	61·8	40·1	62·0	−·0005	·0000	0·0	+ 0·6	−·0004
07	10·4	78·6		40·1		−·0005	·0000	0·0	+ 0·6	−·0004
12	10·3	78·4		40·1		−·0006	·0000	− 0·1	+ 0·7	−·0005
17	10·3	78·4		40·1		−·0006	·0000	− 0·1	+ 0·7	−·0005
22	10·3	78·4		40·2		−·0006	+·0002	− 0·1	+ 0·9	−·0005
27	10 3	78·4		40·3		−·0006	+·0003	− 0·1	+ 1·1	−·0005
32	10 3	78·4		40·3		−·0006	+·0003	− 0·1	+ 1·1	−·0005
37	10·3	78·4		40·3		−·0006	+·0003	0·0	+ 1·1	−·0005
42	10·3	78·3		40·3		−·0006	+·0003	0·0	+ 1·1	−·0005
47	10·3	78·3		40·3		−·0007	+·0003	0·0	+ 1·2	−·0006
52	10·3	78·4		40·4		−·0006	+·0004	0·0	+ 1·2	−·0005
57	10·3	78·4		40·4		−·0006	+·0004	0·0	+ 1·2	−·0005
13 02	10·2	78·3	61·7	40·4	61·9	−·0007	+·0004	− 0·1	+ 1·3	−·0005
07	10·1	78·2		40·4		−·0007	+·0004	− 0·1	+ 1·3	−·0005
12	10·1	78·2		40·4		−·0007	+·0004	− 0·1	+ 1·3	−·0005
17	10·1	78·3		40·4		−·0007	+·0004	− 0·1	+ 1·3	−·0005
22	10·3	78·4		40·4		−·0007	+·0004	+ 0·1	+ 1·3	−·0005
27	10·4	78·4		40·4		−·0007	+·0004	+ 0·1	+ 1·3	−·0005
32	10·4	78·3		40·4		−·0007	+·0004	+ 0·1	+ 1·3	−·0005
37	10·4	78·3		40·4		−·0007	+·0005	+ 0·1	+ 1·4	−·0005
42	10·4	78·0		40·4		−·0007	+·0005	+ 0·1	+ 1·4	−·0005
47	10·4	77·7		40·4		−·0008	+·0005	+ 0·1	+ 1·5	−·0006
52	10·4	77·6		40·4		−·0008	+·0005	+ 0·2	+ 1·5	−·0006
57	10·3	77·5		40·4		−·0009	+·0005	+ 0·1	+ 1·7	−·0007
14 02	10·2	77·3	61·6	40·4	61·9	−·0002	+·0005	+ 0·1	+ 0·8	−·0001
07	10·2	77·2		40·4		−·0002	+·0005	+ 0·1	+ 0·8	−·0001
12	10·6	78·0		40·4		−·0001	+·0005	+ 0·4	+ 0·7	·0000
17	11·1	80·8		40·6		+·0004	+·0006	+ 0·7	+ 0·2	+·0006
22	11·3	82·6		40·6		+·0008	+·0006	+ 0·8	− 0·2	+·0006
27	11·8	83·8		40·6		+·0010	+·0006	+ 1·2	− 0·5	+·0009
32	11·8	84·2		40·6		+·0011	+·0006	+ 1·2	− 0·6	+·0010
37	11·6	83·8		40·6		+·0010	+·0006	+ 1·1	− 0·5	+·0009
42	11·3	83·4		40·5		+·0009	+·0006	+ 0·8	− 0·4	+·0009
47	11·0	82·8		40·4		+·0008	+·0005	+ 0·6	− 0·4	+·0008
52	10·9	82·8		40·4		+·0008	+·0005	+ 0·6	− 0·4	+·0008
57	10·8	82·8		40·4		+·0008	+·0005	+ 0·5	− 0·4	+·0008
15 02	10·7	82·5	61·7	40·3	61·8	+·0007	+·0004	+ 0·4	− 0·4	+·0007
07	10·7	82·2		40·4		+·0007	+·0005	+ 0·4	− 0·2	+·0007
12	10·7	82·2		40·4		+·0006	+·0005	+ 0·4	− 0·1	+·0006
17	10·8	82·2		40·4		+·0006	+·0005	+ 0·5	− 0·1	+·0006
22	10·8	81·5		40·3		+·0005	+·0004	+ 0·6	− 0·1	+·0005
27	10·8	81·1		40·3		+·0004	+·0004	+ 0·6	0·0	+·0004
32	10·6	81·0		40·3		+·0004	+·0004	+ 0·4	0·0	+·0004
37	10·5	80·8		40·3		+·0004	+·0004	+ 0·4	0·0	+·0004
42	10·5	80·5		40·2		+·0003	+·0003	+ 0·4	0·0	+·0003
47	10·4	80·5		40·2		+·0003	+·0003	+ 0·3	0·0	+·0003
52	10·5	80·3		40·2		+·0003	+ 0003	+ 0·4	0·0	+·0003
57	10·6	80·3		40·2		+·0003	+·0003	+ 0·5	0·0	+·0003
16 02	10·6	80·4	61·5	40·2	61·5	+·0003	+·0003	+ 0·5	0·0	+·0003
07	10·6	80·4		40·2		+·0003	+·0003	+ 0·5	0·0	+·0003
12	10·7	80·4		40·2		+·0003	+·0003	+ 0·6	0·0	+·0003

1843.
St. Helena.

September 20.

OBSERVATIONS OF THE MAGNETOMETERS. The Declination was observed 2m. before, and the V. F. 1m. after the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta \psi$	$\Delta \theta$	$\frac{\Delta \phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
20 16 17	10·7	80·4		40·2		+·0003	+·0003	+ 0·6	0·0	+·0003
22	10·8	80·3		40·2		+·0003	+·0003	+ 0·6	0·0	+·0003
27	10·7	80·0		40·2		+·0002	+·0003	+ 0·5	+ 0·1	+·0002
32	10·3	80·0		40·2		+·0002	+·0003	+ 0·2	+ 0 1	+·0002
37	10 1	79·9		40·2		+·0002	+·0003	+ 0·1	+ 0·1	+·0002
42	10·0	79·8		40·2		+·0002	+·0003	0·0	+ 0·1	+·0002
47	10·0	79·8		40·2		+·0002	+·0003	0·0	+ 0·1	+·0002
52	10·0	79·8		40·2		+·0002	+·0003	− 0·1	+ 0·1	+·0002
57	10·1	79·8		40·2		+·0002	+·0003	0·0	+ 0·1	+·0002
17 02	10·1	79·8	61·4	40·2	61·4	+·0002	+·0003	0·0	+ 0·1	+·0002
07	10·1	79·8		40·2		+·0002	+·0003	0·0	+ 0·1	+·0002
12	10·2	79·5		40·2		+·0001	+·0003	+ 0·1	+ 0·2	+·0001
17	10·3	79·3		40·2		·0000	+·0003	+ 0·1	+ 0·3	·0000
22	10·3	79·2		40·2		·0000	+·0003	+ 0·1	+ 0·3	·0000
27	10·3	79·1		40·2		·0000	+·0003	+ 0·1	+ 0·3	·0000
32	10·3	79·1		40·2		·0000	+·0003	+ 0·1	+ 0·3	·0000
37	10·2	79·2		40·2		·0000	+·0003	0·0	+ 0·3	·0000
42	10·2	79·1		40·1		·0000	+·0003	0·0	+ 0·3	·0000
47	10·2	79·1		40·1		−·0001	+·0003	0·0	+ 0·5	·0000
52	10 1	79·1		40·1		−·0001	+·0003	− 0·1	+ 0·5	·0000
57	10·2	79·1		40·1		−·0001	+·0003	0·0	+ 0·5	·0000
18 02	10·6	79·8	61·0	40·1	61·2	+·0001	+·0003	+ 0·3	+ 0·2	+·0001
07	10·8	79·8		40·1		+·0001	+·0003	+ 0·4	+ 0·2	+·0001
12	10·9	79·9		40 2		+ 0001	+·0003	+ 0·4	+ 0·2	+·0001
17	10·9	80·0		40·1		+·0001	+·0003	+ 0·3	+ 0·2	+·0001
22	11·0	80·0		40·1		+·0001	+·0003	+ 0·2	+ 0·2	+·0001
27	11·0	80·0		40 1		+·0001	+·0003	+ 0·1	+ 0·2	+·0001
32	11·0	80·2		39·9		+·0001	+·0001	+ 0·1	0·0	+·0001
37	11·0	80·9		39·9		+·0003	+·0002	0·0	− 0·1	+·0003
42	11·6	80·9		39·9		+·0003	+·0002	+ 0·4	− 0·1	+·0003
47	11·9	81·0		39·9		+·0003	+·0002	+ 0·5	− 0·1	+·0003
52	12·0	81·0		39·9		+·0003	+·0002	+ 0·4	− 0·1	+·0003
57	12·1	80·9		39·9		+·0003	+·0002	+ 0·4	− 0·1	+·0003
19 02	12·5	80·9	61·0	39·9	61·2	+·0003	+·0002	+ 0·6	− 0·1	+·0003
07	12·7	80·8		39·9		+·0003	+·0002	+ 0·8	− 0·1	+·0003
12	12·7	80·9		39·9		+·0003	+·0002	+ 0·8	− 0·1	+·0003
17	12·5	80·9		39·9		+·0003	+·0002	+ 0·6	− 0·1	+·0003
22	12·5	80·9		39·9		+·0003	+·0002	+ 0·6	− 0·1	+·0003
27	12·8	80·3		39 9		+·0001	+·0002	+ 0·8	+ 0·1	+·0001
32	12·5	80·1		39·9		+·0001	+·0002	+ 0·6	+ 0·1	+·0001
37	12·3	80·1		39·6		+·0001	−·0001	+ 0·5	− 0·2	+·0001
42	12·0	80·0		39·6		·0000	−·0001	+ 0·3	− 0·1	·0000
47	11·9	80 0		39·6		·0000	−·0001	+ 0·2	− 0·1	·0000
52	11·4	79·9		39·6		·0000	−·0001	− 0·1	− 0·1	·0000
57	11·0	80·0		39·6		·0000	−·0001	− 0·4	− 0·1	·0000
20 02	11·0	80·0	61·0	39·9	61·1	·0000	+·0002	− 0·4	+ 0·2	·0000
07	11·0	79·6		39 9		−·0001	+·0002	− 0·4	+ 0·4	·0000
12	10·8	79·2		39·9		−·0002	+·0002	− 0·4	+ 0·5	−·0001
17	10·3	79·2		39·9		−·0002	+·0002	− 0·8	+ 0·5	−·0001
22	10·0	79·2		39·9		−·0002	+·0003	− 0·9	+ 0·6	−·0001
27	9·9	79·2		39·9		−·0003	+·0003	− 0·9	+ 0·7	−·0002
32	9·8	79·2		39·9		−·0003	+·0003	− 0·9	+ 0·7	−·0002
37	9·6	79·7		39·9		−·0002	+·0003	− 1·1	+ 0·6	−·0001
42	9·5	79·8		39 9		−·0002	+·0003	− 1·1	+ 0·6	−·0001
47	9·5	79·9		39·9		−·0002	+·0003	− 1·0	+ 0·6	−·0001
52	9·3	80·0		39·9		−·0002	+·0003	− 1·1	+ 0·6	−·0001
57	9·3	80·1		39·9		−·0002	+·0003	− 1·1	+ 0·6	−·0001
21 02	9·2	80·7	60·9	39·9	61·1	−·0001	+·0003	− 1·1	+ 0·5	·0000
07	9·1	80·9		39·9		−·0001	+·0003	− 1·1	+ 0·5	·0000
12	9·1	81·0		39·9		−·0001	+·0003	− 1·1	+ 0·5	·0000
17	9·2	81·0		39·9		−·0001	+·0003	− 1·0	+ 0·5	·0000

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OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
						$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
20 21 22	9·2	81·3		39·9		·0000	+·0003	− 1·0	+ 0·4	·0000
27	9·4	82·0		39·5		+·0001	−·0001	− 0·8	− 0·2	+·0001
32	9·9	83·0		39·5		+ 0003	−·0002	− 0·4	− 0·6	+·0002
37	9·9	83·7		39·5		+·0003	−·0002	− 0·4	− 0·6	+·0002
42	10·0	83 8		39·5		+·0003	−·0002	− 0·3	− 0·6	+·0002
47	10·0	83·4		39·5		+·0002	−·0002	− 0·3	− 0·5	+·0001
52	10·0	83·0		39·5		+·0002	−·0003	− 0·3	− 0·6	+·0001
57	10·0	82·4		39·5		·0000	−·0003	− 0·2	− 0·4	·0000
22 02	10·0	82·1	61·0	39·6	61·0	−·0001	− 0002	− 0·2	− 0·1	−·0001
07	10·0	82·0		39 5		−·0001	−·0003	− 0·3	− 0·2	−·0001
12	10·0	81·9		39·5		−·0002	−·0003	− 0 3	− 0·1	−·0002
17	10·1	82·0		39·5		−·0002	−·0003	− 0·3	− 0·1	−·0002
22	10·1	82·2		39·6		−·0002	−·0002	− 0·3	0·0	−·0002
27	10·2	82·8		39·6		− 0001	−·0002	− 0·3	− 0·1	−·0001
32	10·3	82·6		39·6		−·0001	−·0002	− 0·2	− 0·1	− 0001
37	10·3	82·3		39 6		−·0002	−·0003	− 0·3	− 0·1	−·0002
42	10·3	81·9		39·6		−·0003	−·0003	− 0·3	0·0	−·0003
47	10·2	81·8		39·6		−·0003	−·0003	− 0·4	0·0	−·0003
52	10·6	82·4		39·6		−·0003	−·0003	− 0·1	0·0	−·0003
57	10·7	82·9		39·6		−·0002	−·0003	− 0·1	− 0·1	−·0002
23 02	10·8	83·2	61·3	39·6	61·2	−·0001	−·0003	− 0·1	− 0·2	−·0001
07	10·8	84·0		39 6		·0000	−·0003	− 0·1	− 0·4	·0000
12	11·1	84·2		39·6		·0000	−·0003	+ 0·1	− 0·4	·0000
17	11·4	84·2		39·6		·0000	−·0003	+ 0·2	− 0·4	·0000
22	11·4	85·0		39·6		−·0002	−·0003	+ 0·2	− 0·1	−·0002
27	11·8	85·4		39·6		−·0002	−·0003	+ 0·4	− 0·1	−·0002
32	11·8	85·5		39·7		−·0002	−·0002	+ 0·4	0·0	−·0002
37	11·9	85·9		39·9		−·0003	−·0002	+ 0·4	+ 0·1	−·0003
42	12·2	86·0		39·8		−·0003	−·0001	+ 0·6	+ 0·2	−·0003
47	12·3	86·2		39·9		−·0003	·0000	+ 0·6	+ 0·4	−·0003
52	12·3	86·3		40·0		−·0003	+·0001	+ 0·6	+ 0·5	−·0002
57	12·3	86·2		40·0		−·0003	+·0001	+ 0·6	+ 0·5	−·0002
21 00 02	12·1	86·1	61·8	40·0	61·6	−·0002	+·0001	+ 0·4	+ 0·4	−·0002
07	12·1	85·9		40·0		−·0002	+·0001	+ 0·4	+ 0·4	−·0002
12	12·2	85·8		40·0		−·0002	+·0001	+ 0·4	+ 0·4	−·0002
22	12·2	85·9		40·0		−·0002	+·0001	+ 0·4	+ 0·4	−·0002
17	12·7	86·0		40·0		−·0002	·0000	+ 0·7	+ 0·2	−·0002
27	12·7	86·2		40·0		−·0002	·0000	+ 0·7	+ 0·2	−·0002
32	12·7	86·2		40·0		−·0002	·0000	+ 0·6	+ 0·2	−·0002
37	12·7	86·2		40·0		−·0002	·0000	+ 0·6	+ 0·2	−·0002
42	12·7	86·5		40·1		−·0003	+·0001	+ 0·6	+ 0·5	−·0002
47	12·7	86·5		40·1		−·0003	+·0001	+ 0·6	+ 0·5	−·0002
52	12·7	86·8		40·3		−·0003	+·0002	+ 0·6	+ 0·6	−·0002
57	13·0	86·8		40·3		−·0003	+·0002	+ 0·6	+ 0·6	−·0002
01 02	13·0	86·3	62·1	40·3	62·0	−·0002	+·0002	+ 0·8	+ 0·5	−·0001
07	12·6	86·0		40·3		−·0002	+·0002	+ 0·6	+ 0·5	−·0001
12	12·6	86 1		40·3		−·0002	+·0001	+ 0·6	+ 0·4	−·0002
17	12·5	86·2		40·6		−·0003	+·0003	+ 0·6	+ 0·7	−·0002
22	12·2	86·1		40·6		− 0003	+·0003	+ 0·4	+ 0·7	−·0002
27	12·1	86·0		40·6		−·0003	+·0003	+ 0·4	+ 0·7	−·0002
32	12·1	85·9		40·6		−·0003	+·0003	+ 0·4	+ 0·7	−·0002
37	12·0	85·8		40·6		−·0003	+·0003	+ 0·4	+ 0·7	−·0002
42	11·9	85·2		40·6		−·0002	+·0003	+ 0·3	+ 0·6	−·0001
47	11·5	84·8		40·6		−·0002	+·0003	+ 0·1	+ 0·6	−·0001
52	11 5	84·8		40·7		−·0002	+·0003	+ 0·1	+ 0·6	−·0001
57	11·4	84·8		40·8		−·0002	+·0003	+ 0·1	+ 0·6	−·0001
02 02	11·1	84·2	62·9	40·8	62·7	+·0001	+·0003	− 0·1	+ 0·2	+·0001
07	11·1	84·1		40·8		+·0001	+·0003	− 0·1	+ 0·2	+·0001
12	11·0	84·1		40·7		+·0002	+·0002	− 0·1	0·0	+·0002
17	10·9	84·0		40·7		+·0002	+·0002	− 0·1	0·0	+·0002
22	10·9	84·0		40·9		+·0002	+·0003	0·0	+ 0·1	+·0002

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OBSERVATIONS OF THE MAGNETOMETERS. The Declination was observed 2m. before, and the V. F. 1m. after the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta \psi$	$\Delta \theta$	$\frac{\Delta \phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
21 02 27	10·9	83·9		40·9		+·0002	+·0003	+ 0·1	+ 0·1	+·0002
32	10·8	83·8		40·9		+·0002	+·0003	0·0	+ 0·1	+·0002
37	10·6	83·1		40·9		+·0001	+·0003	− 0·1	+ 0·2	+·0001
42	10·3	82·9		41·2		+·0001	+·0005	− 0·2	+ 0·5	+·0002
47	10·2	82·9		41·2		+·0001	+·0005	− 0·2	+ 0·5	+·0002
52	10·1	82·7		41·2		+·0001	+·0004	− 0·2	+ 0·4	+·0001
57	10·0	82·6		41·2		+·0001	+·0004	− 0·2	+ 0·4	+·0001
03 02	10·0	82·2	63·2	41·2	62·9	+·0001	+·0004	− 0·1	+ 0·4	+·0001
07	10·0	81·9		41·2		·0000	+·0004	− 0·1	+ 0·5	+·0001
12	10·0	81·9		41·2		+·0001	+·0004	0·0	+ 0·4	+·0001
17	9·9	82·0		41·1		+·0001	+·0003	− 0·1	+ 0·2	+·0001
22	10·0	82·0		41·1		+·0002	+·0003	+ 0·1	+ 0·1	+·0002
27	10·0	81·9		41·1		+·0002	+·0003	+ 0·1	+ 0·1	+·0002
32	9·9	81·5		41·1		+·0001	+·0003	+ 0·1	+ 0·2	+·0001
37	9·8	81·0		41·1		+·0001	+ 0003	+ 0·1	+ 0·2	+·0001
42	9·7	81·0		41·1		+·0001	+·0003	+ 0·1	+ 0·2	+·0001
47	9·3	80·9		41·1		+·0001	+·0003	− 0·1	+ 0·2	+·0001
52	9·2	80·8		41·1		+·0001	+·0003	− 0·1	+ 0·2	+·0001
57	9·0	80·8		41·1		+·0002	+·0003	− 0·3	+ 0·1	+·0002
04 02	9·0	80·3	63·6	41·1	63·2	+·0001	+·0003	− 0·2	+ 0·2	+·0001
07	9·0	80·3		41·1		+·0001	+·0003	− 0·2	+ 0·2	+·0001
12	8·9	80·2		41·1		+·0001	+·0003	− 0·2	+ 0·2	+·0001
17	8·8	80·0		41·1		+·0001	+·0003	− 0·3	+ 0·2	+·0001
22	8·6	79·8		41·4		+·0001	+·0005	− 0·4	+ 0·5	+·0002
27	8·0	79·8		41·4		+·0001	+·0005	− 0·8	+ 0 5	+·0002
32	8·0	79·7		41·4		+·0001	+·0005	− 0·8	+ 0·5	+·0002
37	8·2	79·2		41·4		·0000	+·0004	− 0·6	+ 0·5	+·0001
42	8·2	79·1		41·4		·0000	+·0004	− 0·6	+ 0·5	+·0001
47	8·0	79·0		41·4		·0000	+·0004	− 0·7	+ 0·5	+·0001
52	8 0	79·0		41·4		+·0001	+·0004	− 0·7	+ 0·4	+·0001
57	8·0	79·0		41·4		+ 0001	+·0004	− 0·6	+ 0·4	+·0001
05 02	7·8	78·8	63·6	41·1	63·2	+·0001	+·0002	− 0·8	+ 0·1	+·0001
07	7·8	78·4		41·1		·0000	+·0002	− 0·8	+ 0·2	·0000
12	7·8	78·2		41·1		·0000	+·0002	− 0·8	+ 0·2	·0000
17	7·7	78·2		41·1		·0000	+·0002	− 0·9	+ 0·2	·0000
22	7·4	78·0		41·1		·0000	+·0002	− 1·1	+ 0·2	·0000
27	7·2	78·0		41·1		·0000	+·0002	− 1·3	+ 0·2	·0000
32	7·2	78·0		41 1		·0000	+·0002	− 1·3	+ 0·2	·0000
37	7·2	77·9		40·7		·0000	+·0008	− 1·3	+ 0·9	+·0001
42	7·1	77·7		40 7		·0000	+ 0008	− 1·4	+ 0·9	+·0001
47	6·9	77·4		40·7		·0000	+·0008	− 1·5	+ 0·9	+·0001
52	6·9	77·3		40·7		·0000	+·0008	− 1·6	+ 0·9	+·0001
57	7·0	76·9		40·6		−·0001	+·0007	− 1·5	+ 0·9	·0000
06 02	7·0	76·6	63·2	40·7	63·2	−·0001	−·0001	− 1·5	0·0	−·0001
07	7·0	76·4		40·7		−·0001	−·0001	− 1·5	0·0	−·0001
12	7·0	76·2		40·7		−·0002	−·0001	− 1·5	+ 0·1	−·0002
17	7·0	76·1		40·7		−·0002	−·0001	− 1·5	+ 0·1	−·0002
22	7·1	76·1		40·7		−·0002	−·0001	− 1·5	+ 0·1	−·0002
27	7·4	76·2		40·7		−·0002	−·0001	− 1·3	+ 0·1	−·0002
32	7·4	76·3		40·7		−·0001	−·0001	− 1·3	0·0	−·0001
37	7·6	76·4		40·7		−·0001	−·0001	− 1·2	0·0	−·0001
42	7·6	76·4		40·7		−·0001	−·0001	− 1·2	0·0	−·0001
47	7·5	76·4		40 7		−·0001	−·0001	− 1·3	0·0	−·0001
52	7·2	76·4		40·6		−·0001	−·0002	− 1·5	− 0·1	−·0001
57	7·1	76·2		40·6		−·0002	−·0002	− 1·5	0·0	−·0002
07 02	7·0	75·0	62·9	40·6	62·8	−·0004	−·0002	− 1·6	+ 0·2	−·0004
07	6·8	74·9		40 6		−·0004	−·0002	− 1·8	+ 0·2	−·0004
12	6·1	74·5		40·6		−·0004	−·0002	− 2·3	+ 0·2	−·0004
17	6·0	74·1		40·6		−·0005	−·0002	− 2·4	+ 0·4	−·0005
22	6·0	74·1		40·6		−·0005	−·0002	− 2·5	+ 0·4	−·0005
27	6·0	74·1		40·6		−·0005	−·0002	− 2·5	+ 0·4	−·0005

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OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
21 07 32	6·6	74·1		40·6		−·0004	−·0002	− 2·0	+ 0·2	−·0004
37	7·0	74·9		40·6		−·0003	−·0001	− 1·8	+ 0·2	−·0003
42	7·5	75·8		40·6		−·0001	−·0001	− 1·5	0·0	−·0001
47	8·0	76·0		40·6		−·0001	−·0001	− 1·2	0·0	−·0001
52	8·1	76·1		40·6		·0000	−·0001	− 1·1	− 0·1	·0000
57	8·3	76·1		40·6		·0000	−·0001	− 1·1	− 0·1	·0000
08 02	8·8	76·1	62·8	40·9	62·8	·0000	+·0002	− 0·7	+ 0·2	·0000
07	9·0	76·1		40·9		·0000	+·0002	− 0·6	+ 0·2	·0000
12	9·0	76·5		40·9		+·0001	+·0002	− 0·6	+ 0·1	+·0001
17	9·0	76·8		40·7		+·0002	·0000	− 0·6	− 0·2	+·0002
22	9·0	76·9		40·8		+·0002	+·0002	− 0·6	0·0	+·0002
27	9·0	76·9		40·8		+·0002	+·0002	− 0·6	0·0	+·0002
32	9·0	76·4		40·8		+·0001	+·0002	− 0·6	+ 0·1	+·0001
37	9·1	76·4		40·8		+·0002	+·0002	− 0·6	0·0	+·0002
42	9·2	76·2		40·8		+·0001	+·0002	− 0·5	+ 0·1	+·0001
47	9·4	76·2		40·8		+·0001	+·0002	− 0·4	+ 0·1	+·0001
52	9·7	76·2		40·8		+·0001	+·0003	− 0·2	+ 0·2	+·0001
57	9·8	76·2		40·8		+·0001	+·0003	− 0·1	+ 0·2	+·0001
09 02	9·7	76·5	62·7	40·8	62·7	+·0002	+·0003	− 0·2	+ 0·1	+·0002
07	9·8	76·3		40·8		+·0002	+·0003	− 0·1	+ 0·1	+·0002
12	9·8	76·4		40·8		+·0002	+·0003	− 0·1	+ 0·1	+·0002
17	9·8	76·4		40·8		+·0002	+·0003	− 0·1	+ 0·1	+·0002
22	9·9	76·5		40·7		+·0001	+·0003	− 0·1	+ 0·2	+·0001
27	9·9	76·5		40·7		+·0001	+·0003	− 0·1	+ 0·2	+·0001
32	9·9	76·4		40·7		+·0001	+·0003	− 0·1	+ 0·2	+·0001
37	9·8	76·3		40·5		+·0001	+·0002	− 0·2	+ 0·1	+·0001
42	9·8	76·3		40·3		+·0001	·0000	− 0·2	− 0·1	+·0001
47	9·8	76·3		40·3		·0000	·0000	− 0·2	0·0	·0000
52	9·8	76·3		40·3		·0000	+·0001	− 0·3	+ 0·1	·0000
57	9·8	76·3		40·3		·0000	+·0001	− 0·3	+ 0·1	·0000

TORONTO, 1843. SEPTEMBER 20—21.

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MEAN MONTHLY READINGS OF THE MAGNETOMETERS.

Mean Göttingen Time.	Declination.	H. F. at 66°·0.	V. F. at 65°·6.	Mean Göttingen Time.	Declination.	H. F. at 66°·0.	V. F. at 65°·6.
Hours.	Sc. Div.	Sc. Div.	Sc. Div.	Hours.	Sc. Div.	Sc. Div.	Sc. Div.
00	129·0	77·6	29·7	12	124·2	84·1	31·2
01	131·4	76·2	30·2	13	124·2	82·1	31·1
02	130·7	71·5	30·4	14	125·5	80·4	30·8
03	127·8	67·0	29·7	15	127·5	80·3	30·1
04	123·4	66·5	29·5	16	126·1	79·4	29 5
05	119·8	68·6	29·5	17	125·1	77·5	29·0
06	116·3	72·9	29·8	18	126·4	77·7	29·3
07	116·5	79·6	30·2	19	126·9	76·6	28·4
08	118·1	84·3	30·7	20	126·0	76·6	28·8
09	119·9	87·8	31·0	21	126·1	76·5	28·4
10	122·4	87·8	31·7	22	126·4	77·5	28·4
11	123·6	86·2	31·6	23	126·1	77·3	29·2

Coefficients (A), Approximate Absolute Values (B.)

(A)
- Declin. $a = 0' \cdot 721$
- H. F. $k = \cdot 000099$, $q = \cdot 00027$
- V. F. $k = \cdot 000094$, $q = \cdot 00007$

(B) Approx.
- $\psi = 1^\circ 25'$
- $X = 3 \cdot 54$
- $Y = 13 \cdot 44$
- $\theta = 75^\circ 16'$
- $\phi = 13 \cdot 90$

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OBSERVATIONS OF THE MAGNETOMETERS. The Declination was observed 2m. before, and the V. F. 1m. after the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta \psi$	$\Delta \theta$	$\frac{\Delta \phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
20 10 02	117·9	75·9	68·8	29·6	67·3	−·0004	−·0001	− 3·3	+ 0·2	−·0001
07	118·3	74·8		29·6		−·0005	−·0001	− 3·0	+ 0·3	−·0001
12	119·4	71·5		28·7		−·0008	−·0002	− 2·3	+ 0·5	−·0002
17	121·2	71·8		28·7		−·0008	−·0002	− 1·1	+ 0·5	−·0002
22	122·4	72·3		28·7		−·0007	−·0002	− 0·3	+ 0·4	−·0002
27	122·8	74·7		28·7		−·0005	−·0002	− 0·1	+ 0·2	−·0002
32	122·5	76·7		29·4		−·0002	−·0001	− 0·4	+ 0·1	−·0001
37	122·4	76·0		28·9		−·0003	−·0001	− 0·5	+ 0·2	−·0001
42	122·4	78·1		29·1		−·0001	−·0001	− 0·6	0·0	−·0001
47	122·9	77·1		29·0		−·0002	−·0001	− 0·3	+ 0·1	−·0001
52	123·0	77·9		28·9		−·0001	−·0001	− 0·3	0·0	−·0001
57	123·3	78·8		28·9		+·0001	−·0001	− 0·1	− 0·2	−·0001
11 02	123·8	81·4	68·9	29·1	67·5	+·0003	−·0001	+ 0·1	− 0·3	−·0001
07	123·7	80·7		28·7		+·0003	−·0001	0·0	− 0·3	−·0001
12	123·6	80·9		28·7		+·0003	−·0001	− 0·1	− 0·3	−·0001
17	123·3	80·5		28·6		+·0003	−·0001	− 0·4	− 0·3	−·0001
22	123·3	80·9		28·7		+·0003	−·0001	− 0·4	− 0·3	−·0001
27	123·0	80·5		28·7		+·0003	−·0001	− 0·6	− 0·3	−·0001
32	123·0	81·4		28·4		+·0004	−·0002	− 0·6	− 0·5	−·0002
37	122·8	80·6		28·4		+·0003	−·0002	− 0·8	− 0·4	−·0002
42	123·1	81·5		28·4		+·0004	−·0002	− 0·6	− 0·5	−·0002
47	123·1	81·7		28·4		+·0004	−·0002	− 0·7	− 0·5	−·0002
52	123·0	82·0		28·4		+·0005	−·0002	− 0·7	− 0·6	−·0002
57	123·2	82·0		28·4		+·0006	−·0001	− 0·7	− 0·6	−·0001
12 02	123·4	82·0	68·5	28·2	67·4	+·0005	−·0002	− 0·6	− 0·6	−·0002
07	123·2	81·7		28·1		+·0005	−·0002	− 0·7	− 0·6	−·0002
12	123·1	81·3		28·1		+·0004	−·0002	− 0·8	− 0·5	−·0002
17	123·0	81·7		28·1		+·0005	−·0002	− 0·8	− 0·6	−·0002
22	122·9	81·5		27·8		+·0005	−·0002	− 0·9	− 0·6	−·0002
27	122·8	81·8		27·4		+·0005	−·0002	− 1·0	− 0·6	−·0002
32	122·4	81·8		27·3		+·0005	−·0002	− 1·3	− 0·6	−·0002
37	122·7	83·0		27·1		+·0006	−·0002	− 1·1	− 0·7	−·0002
42	122·6	81·8		27·1		+·0005	−·0002	− 1·1	− 0·6	−·0002
47	122·9	82·5		26·9		+·0006	−·0002	− 0·9	− 0·7	−·0002
52	122·5	82·5		26·7		+·0006	−·0003	− 1·2	− 0·8	−·0002
57	122·7	82·6		26·7		+·0006	−·0003	− 1·1	− 0·8	−·0002
13 02	122·6	80·9	68·0	26·3	68·0	+·0005	−·0003	− 1·1	− 0·7	−·0003
07	122·5	79·4		26·3		+·0003	−·0003	− 1·3	− 0·5	−·0003
12	122·4	79·3		26·3		+·0004	−·0003	− 1·4	− 0·6	−·0003
17	122·6	81·0		26·3		+·0005	−·0003	− 1·3	− 0·7	−·0003
22	122·9	83·6		26·4		+·0008	−·0003	− 1·2	− 0·9	−·0002
27	122·7	84·8		26·4		+·0009	−·0003	− 1·4	− 1·0	−·0002
32	122·9	83·6		26·4		+·0008	−·0002	− 1·3	− 0·9	−·0001
37	122·3	82·7		26·4		+·0008	−·0002	− 1·9	− 0·9	−·0001
42	122·2	82·0		26·4		+·0007	−·0002	− 2·0	− 0·8	−·0001
47	122·1	81·5		26·4		+·0007	−·0002	− 2·3	− 0·8	−·0001
52	122·0	81·3		26·4		+·0007	−·0002	− 2·4	− 0·8	−·0001
57	121·9	81·4		26·4		+·0007	−·0002	− 2·6	− 0·8	−·0001
14 02	121·2	80·2	68·2	26·4	68·7	+·0006	−·0002	− 3·1	− 0·7	−·0002
07	120·9	80·5		26·9		+·0006	−·0001	− 3·5	− 0 6	−·0001
12	130·2	81·2		26·6		+·0007	−·0002	− 4·0	− 0·8	−·0001
17	123·8	71·3		25·6		−·0003	−·0003	− 1·5	0·0	−·0003
22	131·4	59·6		25·9		−·0005	−·0002	+ 3·7	+ 0·2	−·0002
27	141·0	53·6		26·5		−·0020	−·0002	+10·6	+ 1·5	−·0003°
32	149·7	46·0		26·5		−·0028	−·0002	+16·7	+ 2·2	−·0004
37	152·4	50·2		27·8		−·0024	·0000	+18·5	+ 2·0	−·0002
42	144·1	67·4		24·4		−·0007	−·0004	+12·4	+ 0·2	−·0004
47	138·0	76·6		25·8		+·0002	−·0002	+ 7·9	− 0·3	−·0002
52	134·4	76·9		26·4		+·0003	−·0002	+ 5·1	− 0·4	−·0002
57	133·0	78·7		26·4		+·0004	−·0002	+ 4·1	− 0·5	−·0002
15 02	134·6	74·4	68·2	25·8	68·5	·0000	−·0002	+ 5·1	− 0·2	−·0002
07	135·6	72·9		25·8		·0000	−·0002	+ 5·9	− 0·2	−·0002

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OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
						$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. ○	Sc. Div.	Therm. ○	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
20 15 12	135·7	74·2		26·0		·0000	−·0002	+ 6·1	− 0·2	−·0002
17	134·5	74·9		26·4		+·0001	−·0001	+ 5·2	− 0·2	−·0001
22	133·2	74·0		26·8		·0000	−·0001	+ 4·4	− 0·1	−·0001
27	131·4	73·6		26·8		·0000	−·0001	+ 3·3	− 0·1	−·0001
32	128·3	73·4		27·0		·0000	−·0001	+ 1·1	− 0·1	−·0001
37	126·3	74·7		27·0		+·0001	−·0001	− 0·3	− 0·2	−·0001
42	124·7	74·5		27·1		+·0001	·0000	− 1·3	− 0·1	·0000
47	124·1	75·1		27·1		+·0002	·0000	− 1·7	− 0·2	·0000
52	123·7	75·6		27·0		+·0002	·0000	− 1·8	− 0·2	·0000
57	123·8	76·2		26·8		+·0003	−·0001	− 1·7	− 0·3	−·0001
16 02	123·7	77·6	68·2	26·9	68·5	+·0004	·0000	− 1·7	− 0·3	·0000
07	124·2	76·2		26·7		+·0003	−·0001	− 1·3	− 0·3	−·0001
12	125·6	76·0		26·6		+·0003	−·0001	− 0·2	− 0·3	−·0001
17	125·3	75·8		26·6		+·0003	−·0001	− 0·4	− 0·3	−·0001
22	125·0	74·3		26·4		+·0001	−·0001	− 0·6	− 0·2	−·0001
27	125·0	73·7		26·3		+·0001	−·0001	− 0·5	− 0·2	−·0001
32	124·4	73·6		26·7		+·0001	·0000	− 0·8	− 0·1	·0000
37	123·9	74·3		26·7		+·0002	·0000	− 1·1	− 0·2	·0000
42	123·8	76·3		27·0		+·0004	·0000	− 1·1	− 0·3	·0000
47	123·9	77·2		27·0		+·0005	·0000	− 1·1	− 0·4	·0000
52	123·3	79·1		26·7		+·0007	·0000	− 1·4	− 0·6	·0000
57	123·6	79·4		26·6		+·0007	·0000	− 1·1	− 0·6	·0000
17 02	123·5	78·8	68·0	26·6	68·5	+·0007	·0000	− 1·1	− 0·6	·0000
07	123·4	77·4		26·5		+·0005	·0000	− 1·3	− 0·4	·0000
12	122·6	78·8		26·6		+·0007	·0000	− 1·9	− 0·6	·0000
17	122·8	79·4		26·6		+·0007	·0000	− 1·8	− 0·6	·0000
22	124·2	81·5		26·1		+·0009	−·0001	− 0·9	− 0·9	·0000
27	126·2	86·6		25·4		+·0014	−·0001	+ 0·4	− 1·3	·0000
32	126·9	92·9		23·9		+·0020	−·0003	+ 0·8	− 1·9	−·0001
37	123·6	92·8		22·5		+·0020	−·0004	− 1·6	− 2·0	−·0002
42	119·9	89·7		22·0		+·0017	−·0005	− 4·4	− 1·9	−·0004
47	117·5	88·5		22·1		+·0016	−·0005	− 6·2	− 1·8	−·0004
52	116·7	86·1		21·9		+·0013	−·0005	− 6·9	− 1·5	−·0004
57	116·5	84·3		21·6		+·0002	−·0005	− 7·1	− 0·6	−·0005
18 02	116·7	83·7	67·8	21·4	68·5	+·0011	−·0005	− 7·0	− 1·4	−·0004
07	117·6	79·8		20·6		+·0007	−·0006	− 6·4	− 1·1	−·0005
12	119·8	77·0		19·9		+·0004	−·0006	− 4·8	− 0·9	−·0005
17	121·0	78·7		19·9		+·0006	−·0006	− 4·0	− 1·0	−·0005
22	121·6	77·7		19·9		+·0005	−·0006	− 3·6	− 0·9	−·0005
27	123·3	76·5		20·0		+·0004	−·0006	− 2·4	− 0·9	−·0005
32	125·3	79·1		18·9		+·0006	−·0007	− 0·9	− 1·1	−·0006
37	127·3	77·1		17·9		+·0005	−·0008	+ 0·4	− 1·1	−·0007
42	128·9	78·3		17·9		+·0006	−·0008	+ 1·5	− 1·2	−·0007
47	130·2	79·0		18·9		+·0006	−·0007	+ 2·5	− 1·1	−·0006
52	131·2	77·7		18·9		+·0005	−·0007	+ 3·2	− 1·0	−·0006
57	131·0	77·9		18·9		+·0006	−·0007	+ 3·0	− 1·1	−·0006
19 02	130·2	78·0	67·6	18·9	69·0	+·0006	−·0007	+ 2·4	− 1·1	−·0006
07	128·7	77·9		19·2		+·0006	−·0006	+ 1·3	− 1·0	−·0005
12	127·4	75·1		19·8		+·0003	−·0006	+ 0·5	− 0·8	−·0005
17	127·4	72·0		19·8		·0000	−·0006	+ 0·5	− 0·5	−·0006
22	129·2	70·9		21·2		−·0002	−·0005	+ 1·8	− 0·2	−·0005
27	130·2	69·8		21·3		−·0003	−·0005	+ 2·7	− 0·2	−·0005
32	131·0	69·9		21·6		−·0003	−·0005	+ 3·3	− 0·2	−·0005
37	130·0	70·2		21·6		−·0002	−·0005	+ 2·6	− 0·2	−·0005
42	128·2	74·5		25·2		+·0002	−·0001	+ 1·3	− 0·2	−·0001
47	127·6	74·5		25·5		+·0002	−·0001	+ 1·0	− 0·2	−·0001
52	126·6	76·0		25·3		+·0003	−·0001	+ 0·4	− 0·3	−·0001
57	125·6	75·9		25·7		+·0003	−·0001	− 0·4	− 0·3	−·0001
20 02	125·0	76·7	67·4	26·2	68·1	+·0004	−·0001	− 0·7	− 0·4	−·0001
07	125·1	76·6		26·2		+·0004	−·0001	− 0·6	− 0·4	−·0001
12	124·2	75·6		26·2		+·0003	−·0001	− 1·3	− 0·3	−·0001
17	124·0	76·4		27·1		+·0003	·0000	− 1·4	− 0·2	·0000

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OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
						$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta \psi$	$\Delta \theta$	$\frac{\Delta \phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
20 20 22	124·0	77·6		27·1		+·0005	·0000	− 1·4	− 0·4	·0000
27	123·8	78·6		27·1		+·0006	·0000	− 1·5	− 0·5	·0000
32	122·9	79·0		26·9		+·0006	·0000	− 2·3	− 0·5	·0000
37	123·0	78·5		26·9		+·0005	·0000	− 2·3	− 0·4	·0000
42	123·6	78·4		26·7		+·0005	·0000	− 1·8	− 0·4	·0000
47	124·8	79·5		26·7		+·0006	·0000	− 0·9	− 0·5	·0000
52	124·8	79·1		26·7		+·0006	·0000	− 0·9	− 0·5	·0000
57	124·7	79·4		26·7		+·0006	·0000	− 1·0	− 0·5	·0000
21 02	124·4	78·4	67·2	26·7	67·5	+·0005	·0000	− 1·2	− 0·4	·0000
07	125·0	78·6		26·7		+·0005	·0000	− 0·8	− 0·4	·0000
12	125·0	78·7		26·7		+·0005	·0000	− 0·8	− 0 4	·0000
17	124·3	78·7		26·7		+·0005	·0000	− 1·3	− 0·4	·0000
22	124·2	80·5		27·0		+·0007	·0000	− 1·4	− 0·6	·0000
27	123·9	81·7		27·0		+·0008	·0000	− 1·6	− 0 7	·0000
32	123·3	81·2		26·5		+·0007	−·0001	− 2·2	− 0·7	−·0001
37	124·9	79·8		26·5		+·0006	−·0001	− 1·0	− 0·6	−·0001
42	127·0	77·2		24·8		+·0003	−·0002	+ 0·5	− 0·4	−·0002
47	128·8	75·0		24·7		+·0001	−·0002	+ 1·8	− 0·2	−·0002
52	130·3	73·4		24·5		−·0001	−·0003	+ 2·8	− 0·2	−·0003
57	130·9	72·9		24·5		−·0002	−·0003	+ 3·3	− 0·1	−·0003
22 02	131·0	73·3	66·9	24·6	67·4	−·0002	−·0003	+ 3·3	− 0·1	−·0003
07	129·7	73·7		24·9		−·0001	−·0002	+ 2·4	− 0·1	−·0002
12	127·6	74·5		26·4		−·0001	−·0001	+ 0·9	0·0	−·0001
17	126·4	75·9		26·3		+·0001	−·0001	+ 0·1	− 0·2	−·0001
22	126·2	78·0		26·7		+·0003	−·0001	− 0·1	− 0·3	−·0001
27	126·3	77·7		26·5		+·0003	−·0001	0·0	− 0·3	−·0001
32	126·1	77·0		26·5		+·0002	−·0001	− 0·1	− 0·2	−·0001
37	124·2	74·1		26·5		−·0001	−·0001	− 1·4	0·0	−·0001
42	122·6	72·1		26·5		−·0003	−·0001	− 2·6	+ 0·2	−·0001
47	121·0	71·0		26·7		−·0004	−·0001	− 3·7	+ 0·2	−·0001
52	119·7	71·7		27·2		−·0003	−·0001	− 4·6	+ 0·2	−·0001
57	117·1	72·5		27·2		−·0003	−·0001	− 6·5	+ 0·2	−·0001
23 02	116·5	74·3	66·8	27·5	67·0	−·0001	−·0001	− 6·9	0·0	−·0001
07	116·0	77·4		27·7		+·0002	−·0001	− 7·4	− 0·2	−·0001
12	116·2	79·4		27·8		+·0004	−·0001	− 7·5	− 0·4	−·0001
17	115·8	79·9		27·9		+·0005	−·0001	− 7·9	− 0·5	−·0001
22	118·3	80·7		25·8		+·0005	−·0003	− 6·4	− 0·7	−·0003
27	119·7	79·9		25·8		+·0005	−·0003	− 5·4	− 0·7	−·0003
32	120·5	79·4		25·6		+·0005	−·0003	− 5·0	− 0·7	−·0003
37	123·4	81·4		26·3		+·0006	−·0002	− 3·2	− 0·7	−·0002
42	123·6	81·1		26·4		+·0005	−·0002	− 3·2	− 0·6	−·0002
47	125·6	80·8		26·4		+·0005	−·0002	− 1·9	− 0·6	−·0002
52	127·1	80·6		26·1		+·0005	−·0003	− 1·0	− 0·7	−·0003
57	128·4	80·5		27·0		+·0004	−·0002	− 0·3	− 0·5	−·0002
21 00 02	129·2	82·1	66·5	27·0	66·6	+·0006	−·0002	+ 0·1	− 0·7	−·0002
07	128·3	81·2		27·7		+·0005	−·0001	− 0·6	− 0·5	−·0001
12	129·0	80·7		27·8		+·0005	−·0001	− 0·3	− 0·5	−·0001
17	129·5	82·2		27·8		+·0007	−·0001	− 0·1	− 0·7	−·0001
22	128·5	82·5		28·8		+·0007	·0000	− 0·9	− 0·6	·0000
27	128·7	83·1		28·8		+ 0008	·0000	− 0·9	− 0·7	·0000
32	128·9	82·0		28·8		+·0007	·0000	− 0·9	− 0·6	·0000
37	129·9	86·3		28·8		+·0012	·0000	− 0·4	− 1·0	+·0001
42	129·1	82·1		28·3		+·0008	−·0001	− 1·1	− 0·8	·0000
47	131·9	82·5		28·4		+·0008	−·0001	+ 0·8	− 0·8	·0000
52	132·8	81·5		28·3		+·0008	−·0001	+ 1·3	− 0·8	·0000
57	131·9	79·6		27·5		+·0006	−·0002	+ 0·5	− 0·7	−·0002
01 02	133·8	83·8	67·0	27·5	66·9	+·0010	−·0002	+ 1·7	− 1·0	−·0001
07	133·2	82·4		27·5		+·0009	−·0002	+ 1·3	− 0·9	−·0001
12	132·5	83·2		27·0		+·0011	−·0002	+ 0·8	− 1·1	−·0001
17	132·3	81·2		27·0		+·0010	−·0002	+ 0·8	− 1·0	−·0001
22	133·3	80·0		27·0		+·0009	−·0002	+ 1·5	− 0 9	−·0001
27	133·7	80·0		27·0		+·0010	−·0002	+ 1·8	− 1·0	−·0001

1843.
Toronto.

September 21.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
						$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
21 01 32	133·3	78·8		26·7		+·0008	−·0002	+ 1·5	− 0·9	−·0001
37	133·6	77·9		26·8		+·0009	−·0002	+ 1·8	− 0·9	−·0001
42	133·6	77·4		26·5		+·0009	−·0003	+ 1·9	− 1·0	−·0002
47	132·9	78·2		26·3		+·0010	−·0003	+ 1·4	− 1·1	−·0002
52	131·7	75·1		26·3		+·0008	−·0003	+ 0·6	− 0·9	−·0002
57	132·4	76·6		26·3		+·0010	−·0003	+ 1·1	− 1·1	−·0002
02 02	132·0	77·3	68·0	26·3	67·5	+·0011	−·0003	+ 0·9	− 1·2	−·0002
07	132·0	75·8		26·7		+·0010	−·0002	+ 1·1	− 1·0	−·0001
12	130·8	72·9		26·3		+·0008	−·0002	+ 0·4	− 0·9	−·0001
17	131·0	71·6		26·3		+·0008	−·0002	+ 0·7	− 0·9	−·0001
22	131·8	70·5		25·8		+·0007	−·0003	+ 1·5	− 0·9	−·0002
27	133·4	69·1		26·0		+·0007	−·0002	+ 2·8	− 0·8	−·0001
32	132·7	70·4		26·0		+·0009	−·0002	+ 2·5	− 0·9	−·0001
37	131·8	71·1		26·5		+·0010	−·0002	+ 2·0	− 1·0	−·0001
42	130·2	71·8		26·0		+·0011	−·0002	+ 0·3	− 1·1	−·0001
47	129·9	73·4		26·0		+·0014	−·0002	+ 1·0	− 1·4	−·0001
52	129·8	72·6		25·7		+·0014	−·0002	+ 1·1	− 1·4	−·0001
57	129·7	70·5		25·1		+·0012	−·0003	+ 1·2	− 1·3	−·0002
03 02	130·3	68·3	69·5	25·0	68·5	+·0011	−·0002	+ 1·8	− 1·1	−·0001
07	129·3	68·8		25·0		+·0012	−·0002	+ 1·3	− 1·2	−·0001
12	130·1	68·6		25·2		+·0012	−·0002	+ 2·2	− 1·2	−·0001
17	129·6	68·4		24·3		+·0013	−·0003	+ 2·0	− 1·4	−·0002
22	130·9	68·8		24·3		+·0014	−·0003	+ 3·3	− 1·4	−·0002
27	130·6	65·8		24·1		+·0011	−·0003	+ 3·3	− 1·2	−·0002
32	131·0	66·8		23·6		+·0013	−·0003	+ 3·9	− 1·4	−·0002
37	129·0	65·2		23·6		+·0012	−·0003	+ 2·8	− 1·3	−·0002
42	127·6	67·4		23·0		+·0014	−·0003	+ 1·9	− 1·4	−·0002
47	127·4	65·3		22·8		+·0013	−·0003	+ 2·0	− 1·4	−·0002
52	126·9	65·9		22·7		+·0014	−·0003	+ 2·0	− 1·4	−·0002
57	126·4	66·2		22·9		+·0015	−·0003	+ 1·8	− 1·5	−·0002
04 02	126·3	67·0	71·8	22·6	70·3	+·0016	−·0003	+ 2·0	− 1·6	−·0002
07	125 9	67·4		22·1		+·0017	−·0004	+ 2·0	− 1·8	−·0003
12	125·5	66·9		22·1		+·0016	−·0004	+ 1·9	− 1·7	−·0003
17	124·9	65·7		21·7		+·0015	−·0004	+ 1·7	− 1·6	−·0003
22	124·6	65·1		21·6		+·0015	−·0004	+ 1·7	− 1·6	−·0003
27	123·8	63·7		22·2		+·0013	−·0003	+ 1·3	− 1·4	−·0002
32	122·1	64·8		22·3		+·0014	−·0003	+ 0·4	− 1·4	−·0002
37	122·4	65·1		21·6		+·0015	−·0004	+ 0·8	− 1·6	−·0003
42	122·6	65·7		21·3		+·0015	−·0004	+ 0·8	− 1·6	−·0003
47	121·6	65·5		21·3		+·0015	−·0004	+ 0·6	− 1·6	−·0003
52	123·1	64·1		20·9		+·0014	−·0004	+ 1·9	− 1·5	−·0003
57	121·9	63·8		21·1		+·0013	−·0004	+ 1·3	− 1·4	−·0003
05 02	121·4	64·6	72·7	21·5	71·1	+·0014	−·0004	+ 1·1	− 1·5	−·0003
07	121·0	64·2		21·0		+·0014	−·0004	+ 1·1	− 1·5	−·0003
12	121·4	65·0		21·0		+·0014	−·0004	+ 1·5	− 1·5	−·0003
17	119·9	64·2		21·0		+·0014	−·0004	+ 0·7	− 1·5	−·0003
22	119·9	64·9		20·7		+·0014	−·0003	+ 0·9	− 1·4	−·0002
27	119·7	63·9		20·7		+·0013	−·0004	+ 1·0	− 1·4	−·0003
32	118·9	61·6		20·7		+·0011	−·0004	+ 0·6	− 1·3	−·0003
37	118·0	62·6		20·6		+·0012	−·0004	+ 0·1	− 1·4	−·0003
42	118·6	64·7		20·4		+·0013	−·0005	+ 0·8	− 1·5	−·0004
47	117·5	64·2		20·0		+·0013	−·0005	+ 0·2	− 1·5	−·0004
52	117·1	61·8		19·6		+·0010	−·0005	+ 0·1	− 1·3	−·0004
57	114·9	62·6		19·8		+·0011	−·0005	− 1·2	− 1·4	−·0004
06 02	114·6	65·8	73·8	19·8	72·0	+·0014	−·0005	− 1·2	− 1·6	−·0004
07	114·2	68·1		20·3		+·0016	−·0005	− 1·5	− 1·8	−·0004
12	114·1	69·7		19·7		+·0017	−·0004	− 1·5	− 1·8	−·0003
17	114·6	69·8		19·6		+·0017	−·0005	− 1·2	− 1·9	−·0004
22	114·8	70·6		19·6		+·0018	−·0005	− 1·1	− 1·9	−·0003
27	114·7	70·8		19·6		+·0017	−·0005	− 1·2	− 1·9	−·0004
32	114·6	73·8		19·6		+·0020	−·0005	− 1·3	− 2·1	−·0003
37	114·0	74·2		19·6		+·0020	−·0005	− 1·7	− 2·1	−·0003

1843. Toronto. September 21.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
						$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
21 06 42	114·1	72·2		19·6		+·0019	−·0005	− 1·6	− 2·0	−·0003
47	115·1	77·7		19·6		+·0023	−·0005	− 0·9	− 2·4	−·0003
52	115·8	80·8		20·2		+·0026	−·0005	− 0·5	− 2·6	−·0003
57	115·1	80·8		19·9		+·0025	−·0005	− 1·0	− 2·5	−·0003
07 02	114·6	75·1	74·8	19·2	72·7	+·0019	−·0005	− 1·3	− 2·0	−·0003
07	112·8	70·1		18·8		+·0014	−·0006	− 2·8	− 1·7	−·0005
12	112·4	68·8		19·0		+·0013	−·0006	− 3·2	− 1·6	−·0005
17	112·1	69·9		19·2		+·0014	−·0005	− 3·5	− 1·6	−·0004
22	112·5	68·2		18·7		+·0012	−·0006	− 3·3	− 1·5	−·0005
27	112·1	71·9		19·1		+·0016	−·0005	− 3·7	− 1·8	−·0004
32	110·6	69·3		18·4		+·0013	−·0006	− 4·8	− 1·6	−·0005
37	109·6	66·4		18·4		+·0010	−·0006	− 5·6	− 1·4	−·0005
42	110·0	64·8		18·4		+·0009	−·0006	− 5·4	− 1·3	−·0005
47	112·0	64·3		18·0		+·0008	−·0006	− 4·1	− 1·2	−·0005
52	114·7	65·0		18·6		+·0009	−·0006	− 2·3	− 1·3	−·0005
57	116·1	67·7		18·5		+·0012	−·0006	− 1·3	− 1·5	−·0005
08 02	116·9	67·9	76·3	18·5	74·1	+·0012	−·0006	− 0·8	− 1·5	−·0005
07	116·8	69·2		18·5		+·0013	−·0006	− 1·1	− 1·6	−·0005
12	116·4	68·1		18·5		+·0012	−·0006	− 1·4	− 1·5	−·0005
17	116·7	71·0		18·5		+·0015	−·0006	− 1·3	− 1·8	−·0005
22	117·0	72·4		18·5		+·0016	−·0006	− 1·2	− 1·9	−·0005
27	117·9	76·1		18·5		+·0020	−·0006	− 0·7	− 2·2	−·0004
32	118·8	76·0		18·9		+·0019	−·0005	− 0·1	− 2·0	−·0003
37	118·2	74·8		18·9		+·0018	−·0005	− 0·7	− 1·9	−·0003
42	118·8	76·5		18·7		+·0020	−·0005	− 0·4	− 2·1	−·0003
47	118·7	80·7		18·7		+·0024	−·0005	− 0·6	− 2·4	−·0003
52	119·3	74·9		18·7		+·0018	−·0005	− 0·2	− 1·9	−·0003
57	118·8	75·4		18·6		+·0019	−·0005	− 0·7	− 2·0	−·0003
09 02	119·0	80·0	77·4	18·6	74·7	+·0023	−·0005	− 0·6	− 2·4	−·0003
07	119·1	80·5		18·6		+·0024	−·0005	− 0·7	− 2·4	−·0003
12	119·5	80·6		18·6		+·0024	−·0005	− 0·6	− 2·4	−·0003
17	119·3	82·7		18·6		+·0026	−·0005	− 0·8	− 2·6	−·0003
22	120·0	83·4		18·5		+·0027	−·0005	− 0·5	− 2·7	−·0003
27	119·8	83·6		18·5		+·0028	−·0005	− 0·8	− 2·8	−·0003
32	120·3	83·8		18·5		+·0028	−·0005	− 0·6	− 2·8	−·0003
37	123·9	83·8		18·6		+·0028	−·0005	+ 1·8	− 2·8	−·0003
42	124·2	84·5		18·6		+·0029	−·0005	+ 1·8	− 2·9	−·0003
47	122·9	84·8		18·6		+·0029	−·0005	+ 0·8	− 2·9	−·0003
52	122·0	84·8		18·6		+·0030	−·0005	0·0	− 3·0	−·0003
57	122·4	82·6		18·4		+·0028	−·0006	+ 0·1	− 2·9	−·0004

1843. Cape of Good Hope. September.

CAPE OF GOOD HOPE, 1843. SEPTEMBER 20—21.

MEAN MONTHLY READINGS OF THE MAGNETOMETERS.

Mean Göttingen Time.	Declination.	H. F. at 66°·0.	V. F. at 65°·6.	Mean Göttingen Time.	Declination.	H. F. at 66°·0.	V. F. at 65°·6.
Hours.	Sc. Div.	Sc. Div.	Sc. Div.	Hours.	Sc. Div.	Sc. Div.	Sc. Div.
00	52·2	55·1	21·8	12	53·2	52·7	23·6
01	53·1	54·8	21·8	13	53·3	53·1	23·6
02	53·2	54·3	23·0	14	53·2	53·5	23·4
03	52·9	53·7	24·0	15	53·5	53·9	23·0
04	52·5	53·5	24·4	16	53·2	53·9	23·3
05	52·4	52·9	25·0	17	53·3	54·1	22·8
06	52·6	51·5	24·8	18	54·0	54·1	22·3
07	52·7	51·7	24·3	19	54·1	55·4	22·7
08	53·0	51·0	24·3	20	52·4	56·1	23·8
09	52·9	51·0	24·4	21	50·7	56·4	24·3
10	53·0	52·1	23·6	22	50·5	55·7	23·5
11	53·1	52·4	23·5	23	51·1	55·0	22·5

Coefficients (A), Approximate Absolute Values (B.)

(A)
- Declin. $a = 0'·751$
- H. F. $k = ·00018$, $q = ·00027$
- V. F. $k = ·00018$, $q = ·00005$

(B) Approx.
- $\psi = 29° 05'$
- $X = 4·46$
- $Y = 6·00$
- $\theta = -53° 14'$
- $\phi = 7·50$

1843.
Cape of Good Hope.

September 20.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	° ′ ″	″	Parts of Total Force.
20 10 02	53·0	53·9	57·0	23·6	57·2	−·0001	−·0001	0·0	0·0	−·0001
07	53·1	53·5		23·3		−·0002	−·0001	+ 0·1	+ 0·2	−·0001
12	53·3	53·7		22·9		−·0001	−·0002	+ 0 2	− 0·2	−·0002
17	53·4	53·8		22·9		−·0001	−·0002	+ 0·3	− 0·2	−·0002
22	52·2	54·0		22·7		−·0001	−·0002	− 0·6	− 0·2	−·0002
27	53·0	54·3		22·7		·0000	−·0002	0·0	− 0·3	−·0001
32	53·0	54·6		22·3		·0000	−·0003	0·0	− 0·5	−·0002
37	53·0	54·8		22·2		·0000	−·0003	− 0·1	− 0·5	−·0002
42	53·0	54·8		22·1		·0000	−·0003	− 0·1	− 0·5	−·0002
47	52·9	54·5		22·3		·0000	−·0003	− 0·2	− 0·5	−·0002
52	52·6	54·4		22·4		−·0001	−·0003	− 0·4	− 0·3	−·0002
57	52·6	54·5		22·4		·0000	−·0003	− 0·4	− 0·5	−·0002
11 02	52·7	54·4	57·0	22·3	57·4	−·0001	−·0003	− 0·3	− 0·3	−·0002
07	52·7	54·3		22·3		−·0001	−·0003	− 0·3	− 0·3	−·0002
12	52·6	54·3		22·4		−·0001	−·0003	− 0·4	− 0·3	−·0002
17	52·6	54·1		22·5		−·0001	−·0002	− 0·4	− 0·2	−·0002
22	52·8	54·0		22·4		−·0001	−·0003	− 0·2	− 0·3	−·0002
27	53·0	54·3		22·4		−·0001	−·0003	− 0·1	− 0·3	−·0002
32	53·0	54·3		22·4		−·0001	−·0003	− 0·1	− 0·3	−·0002
37	52·9	54·3		22·5		−·0001	−·0003	− 0·2	− 0·3	−·0002
42	52·8	54·3		22·5		−·0001	−·0003	− 0·3	− 0·3	−·0002
47	52·8	54·5		22·5		−·0001	−·0003	− 0·3	− 0·3	−·0002
52	52·9	54·7		22·6		−·0001	−·0002	− 0·2	− 0·2	−·0002
57	52·7	54·7		22·5		−·0001	−·0003	− 0·4	− 0·3	−·0002
12 02	52·7	54·6	57·0	22·5	57·4	−·0001	−·0003	− 0·4	− 0·3	−·0002
07	52·6	54·4		22·6		−·0001	−·0002	− 0·5	− 0·2	−·0002
12	52·6	54·5		22·6		−·0001	−·0002	− 0·5	− 0·2	−·0002
17	52·6	54·5		22·8		−·0001	−·0002	− 0·5	− 0·2	−·0002
22	52·7	54·4		22·7		−·0001	−·0002	− 0·4	− 0·2	−·0002
27	52·7	54·3		22·8		−·0002	−·0002	− 0·4	0·0	−·0002
32	52 7	54·4		22·8		−·0002	−·0002	− 0·4	0·0	−·0002
37	52·9	54·6		22·6		−·0001	−·0003	− 0·3	− 0·3	−·0002
42	52·9	54·6		22·7		−·0002	−·0002	− 0·3	0·0	−·0002
47	52·7	54·5		22·8		−·0002	−·0002	− 0·5	0·0	−·0002
52	52·6	54·8		22·8		−·0001	−·0002	− 0·5	− 0·2	−·0002
57	52·9	54·7		22·8		−·0002	−·0002	− 0·3	0·0	−·0002
13 02	52·6	54·3	56·8	23·2	57·3	−·0003	−·0001	− 0·5	+ 0·3	−·0002
07	52·3	54·2		23·4		−·0003	−·0001	− 0·8	+ 0·3	−·0002
12	52·3	54·1		23·4		−·0003	−·0001	− 0·8	+ 0·3	−·0002
17	52·5	54·4		23·1		−·0003	−·0002	− 0·6	+ 0·2	−·0002
22	52·9	54·4		23·0		−·0003	−·0002	− 0·3	+ 0·2	−·0002
27	53·0	54·5		22·8		−·0003	−·0002	− 0·2	+ 0·2	−·0002
32	53·0	54·4		22·9		−·0003	−·0002	− 0·2	+ 0·2	−·0002
37	53·0	54·4		22·9		−·0003	−·0002	− 0·2	+ 0·2	−·0002
42	53·0	54 3		23·1		−·0003	−·0001	− 0·2	+ 0·3	−·0002
47	53·0	54·3		23·1		−·0003	−·0001	− 0·2	+ 0·3	−·0002
52	53·0	54·3		23·1		−·0003	−·0001	− 0·2	+ 0·3	−·0002
57	53·0	54·2		23·3		−·0003	−·0001	− 0·2	+ 0·3	−·0002
14 02	52·9	54·0	56·8	23·5	57·3	−·0004	−·0001	− 0·2	+ 0·5	−·0002
07	52·9	54·1		23·2		−·0004	−·0001	− 0·2	+ 0·5	−·0002
12	53·8	54·5		22·1		−·0003	−·0003	+ 0·4	0·0	−·0003
17	55·1	56·0		20·4		·0000	−·0006	+ 1·4	− 1·0	−·0004
22	57·0	58·3		18·5		+·0004	−·0009	+ 2·8	− 2·1	−·0004
27	58·2	59·9		17·5		+·0007	−·0011	+ 3·7	− 3·0	−·0005
32	58·7	60·9		17·1		+·0008	−·0012	+ 4·0	− 3·3	−·0005
37	58·0	60·3		17·7		+·0007	−·0011	+ 3·5	− 3·0	−·0005
42	57·0	60·0		18·5		+·0006	−·0009	+ 2·7	− 2·5	−·0004
47	56·0	59·4		19·8		+·0005	−·0007	+ 2·0	− 2·0	−·0003
52	55·2	59·1		20·0		+·0005	−·0006	+ 1·3	− 1·8	−·0002
57	54·8	58·9		20·4		+·0004	−·0005	+ 1·0	− 1·5	−·0002
15 02	54·4	58·6	56·7	20·6	57·2	+·0004	−·0005	+ 0·7	− 1·5	−·0002
07	54·2	58·4		20·6		+·0003	−·0005	+ 0·5	− 1·3	−·0002

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OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
						$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
20 15 12	54·1	58·7		20·6		+·0004	−·0005	+ 0·5	− 1·5	−·0002
17	54·2	58·3		20·9		+·0003	−·0005	+ 0·6	− 1·3	−·0002
22	53·8	57·8		21·3		+·0002	−·0004	+ 0·3	− 1·0	−·0002
27	53·7	57·5		21·3		+·0001	−·0004	+ 0·2	− 0·8	−·0002
32	53·5	57·3		22·0		+·0001	−·0003	+ 0·2	− 0·7	−·0002
37	53·2	57·1		22·0		+·0001	−·0003	− 0·1	− 0·7	−·0002
42	53·1	57·0		22·1		+·0001	−·0003	− 0·2	− 0·7	−·0002
47	53·0	56·7		22·1		·0000	−·0003	− 0·2	− 0·5	−·0002
52	53·0	56·6		22·1		·0000	−·0003	− 0·2	− 0·5	−·0002
57	52·9	56·6		22·1		·0000	−·0003	− 0·2	− 0·5	−·0002
16 02	53·0	57·0	56·6	22·3	57·0	·0000	−·0003	− 0·2	− 0·5	−·0002
07	53·0	57·1		22·3		+·0001	−·0003	− 0·2	− 0·7	−·0002
12	53·0	57·1		22·0		+·0001	−·0003	− 0·2	− 0·7	−·0002
17	53·0	56·9		22·2		·0000	−·0003	− 0·2	− 0·5	−·0002
22	53·1	57·0		22·2		·0000	−·0002	− 0·1	− 0·3	−·0001
27	53·0	56·8		22·4		·0000	−·0002	− 0·2	− 0·3	−·0001
32	52·7	56·6		22·9		−·0001	−·0001	− 0·4	0·0	−·0001
37	52·4	56·2		23·0		−·0001	−·0001	− 0·7	0·0	−·0001
42	52·0	56·1		23·0		−·0001	−·0001	− 1·0	0·0	−·0001
47	52·1	56·0		23·0		−·0002	−·0001	− 0·9	+ 0·2	−·0001
52	52·3	56·0		23·0		−·0002	−·0001	− 0·8	+ 0·2	−·0001
57	52·4	56·1		23·0		−·0002	−·0001	− 0·7	+ 0·2	−·0001
17 02	52·5	56·1	56·6	23·0	56·8	−·0002	−·0001	− 0·6	+ 0·2	−·0001
07	52·6	56·0		23·0		−·0002	−·0001	− 0·6	+ 0·2	−·0001
12	52·8	56·0		22·8		−·0002	−·0001	− 0·5	+ 0·2	−·0001
17	53·0	55·8		22·8		−·0002	−·0001	− 0·4	+ 0·2	−·0001
22	53·0	55·7		22·8		−·0002	−·0001	− 0·4	+ 0·2	−·0001
27	53·2	55·0		22·6		−·0004	−·0001	− 0·3	+ 0·5	−·0002
32	53·8	54·7		22·6		−·0004	−·0001	+ 0·2	+ 0·5	−·0002
37	53·7	54·7		22·6		−·0004	−·0001	0·0	+ 0·5	−·0002
42	53·8	54·7		22·6		−·0004	−·0001	0·0	+ 0·5	−·0002
47	54·0	54·9		22·6		−·0004	−·0001	+ 0·2	+ 0·5	−·0002
52	54·0	54·9		22·6		−·0004	−·0001	+ 0·1	+ 0·5	−·0002
57	54·2	54·9		22·3		−·0004	−·0001	+ 0·2	+ 0·5	−·0002
18 02	54·9	55·0	56·6	22·3	56·8	−·0004	−·0001	+ 0·7	+ 0·5	−·0002
07	55·0	55·3		22·3		−·0003	−·0001	+ 0·8	+ 0·3	−·0002
12	55·0	55·6		22·3		−·0003	−·0001	+ 0·8	+ 0·3	−·0002
17	55·0	56·0		21·8		−·0003	−·0002	+ 0·8	+ 0·2	−·0002
22	55·0	56·1		21·8		−·0003	−·0002	+ 0·8	+ 0·2	−·0002
27	55·2	56·8		21·9		−·0001	−·0002	+ 0·9	− 0·2	−·0002
32	55·1	57·3		21·9		−·0001	−·0002	+ 0·8	− 0·2	−·0002
37	55·3	57·9		21·6		·0000	−·0003	+ 0·9	− 0·5	−·0002
42	56·0	58·3		21·1		·0000	−·0004	+ 1·4	− 0·7	−·0003
47	56·2	58·6		21·1		+·0001	−·0004	+ 1·6	− 0·8	−·0002
52	56·1	58·9		21·0		+·0001	−·0004	+ 1·5	− 0·8	−·0002
57	55·9	59·0		21·2		+·0001	−·0004	+ 1·4	− 0·8	−·0002
19 02	55·8	59·2	56·4	21·7	56·6	+·0001	−·0003	+ 1·3	− 0·7	−·0002
07	55·2	59·0		22·1		·0000	−·0002	+ 0·9	− 0·3	−·0001
12	54·9	59·0		22·3		·0000	−·0002	+ 0·8	− 0·3	−·0001
17	54·2	59·3		22·5		+·0001	−·0002	+ 0·4	− 0·5	−·0001
22	54·2	59·7		22·4		+·0001	−·0002	+ 0·5	− 0·5	−·0001
27	54·5	59·4		22·5		·0000	−·0002	+ 0·8	− 0·3	−·0001
32	54·2	59·5		22·9		+·0001	−·0002	+ 0·7	− 0·5	−·0001
37	54·0	59·5		23·1		·0000	−·0001	+ 0·7	− 0·2	−·0001
42	53·9	59·2		23·9		−·0001	·0000	+ 0·7	+ 0·2	·0000
47	53·2	59·3		24·2		−·0001	·0000	+ 0·3	+ 0·2	·0000
52	52·9	59·3		24·5		−·0001	+·0001	+ 0·2	+ 0·3	·0000
57	52·5	59·4		24·7		−·0001	+·0001	0·0	+ 0·3	·0000
20 02	52·2	58·9	56·0	24·7	56·4	−·0002	+·0001	− 0·2	+ 0·5	·0000
07	52·3	58·8		25·0		−·0002	+·0001	0·0	+ 0·5	·0000
12	52·1	58·3		25·4		−·0003	+·0002	0·0	+ 0·8	·0000
17	52·0	58·1		25·6		−·0003	+·0002	0·0	+ 0·8	·0000

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The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
20 20 22	51·5	57·9		26·4		−·0004	+·0003	− 0·2	+ 1·2	+·0001
27	51·2	58·0		26·4		−·0004	+·0003	− 0·4	+ 1·2	+·0001
32	51·1	57·9		26·6		−·0004	+·0005	− 0·4	+ 1·5	+·0002
37	51·0	57·9		26·6		−·0004	+·0003	− 0·3	+ 1·2	+·0001
42	50·9	58·0		26·6		−·0004	+·0003	− 0·3	+ 1·2	+·0001
47	50·9	57·9		26·8		−·0004	+·0004	− 0·2	+ 1·3	+·0001
52	50·9	58·1		26·7		−·0004	+·0003	− 0·1	+ 1·2	+·0001
57	50·9	58·3		26·7		−·0004	+·0003	+ 0·1	+ 1·2	+·0001
21 02	50·7	58·2	55·9	26·5	56·3	−·0004	+·0003	0·0	+ 1·2	+·0001
07	50·5	58·4		26·7		−·0003	+·0003	− 0·2	+ 1·0	+·0001
12	50·2	58·4		26·5		−·0003	+·0003	− 0·4	+ 1·0	+·0001
17	50·4	58·3		26·5		−·0003	+·0003	− 0·2	+ 1·0	+·0001
22	50·4	58·9		26·5		−·0002	+·0003	− 0·2	+ 0·8	+·0001
27	50·4	59·4		26·0		−·0001	+·0003	− 0·2	+ 0·7	+·0002
32	50·3	60·2		25·4		+·0001	+·0002	− 0·2	+ 0·5	+·0003
37	50·6	60·9		24·9		+·0002	+·0001	0·0	− 0·2	+·0001
42	50·8	60·5		24·5		+·0002	·0000	+ 0·2	− 0·3	+·0001
47	50·9	59·9		24·5		+·0001	·0000	+ 0·3	− 0·2	·0000
52	50·9	59·2		24·5		·0000	+·0001	+ 0·3	+ 0·2	+·0001
57	50·9	58·5		24·8		−·0001	+·0001	+ 0·3	+ 0·3	·0000
22 02	51·0	58·2	56·2	24·8	56·5	−·0002	+·0001	+ 0·4	+ 0·5	·0000
07	51·2	58·0		25·0		−·0002	+·0002	+ 0·5	+ 0·7	+·0001
12	51·2	58·0		25·0		−·0002	+·0002	+ 0·5	+ 0·7	+·0001
17	51·1	58·0		25·0		+·0002	+·0002	+ 0·3	+ 0·7	+·0001
22	51·9	58·0		25·0		−·0002	+·0002	+ 0·9	+ 0·7	+·0001
27	51·1	58·2		24·5		−·0001	+·0001	+ 0·2	+ 0·3	·0000
32	51·1	57·7		24·5		−·0002	+·0002	+ 0·2	+ 0·7	+·0001
37	51·1	56·9		24·5		−·0003	+·0002	+ 0·2	+ 0·8	·0000
42	51·1	56·0		24·7		−·0005	+·0002	+ 0·2	+ 1·2	·0000
47	51·2	55·1		24·9		−·0006	+·0002	+ 0·2	+ 1·3	−·0001
52	51·3	55·8		24·9		−·0005	+·0002	+ 0·2	+ 1·2	·0000
57	51·8	55·9		24·4		−·0005	+·0002	+ 0·5	+ 1·2	·0000
23 02	51·9	55·9	56·3	24·1	56·6	−·0004	+·0002	+ 0·6	+ 1·0	·0000
07	51·9	56·1		23·8		−·0004	+·0001	+ 0·5	+ 0·8	−·0001
12	52·1	56·2		23·5		−·0004	+·0001	+ 0·6	+ 0·8	−·0001
17	52·2	55·9		23·5		−·0004	+·0001	+ 0·6	+ 0·8	−·0001
22	52·3	56·0		23·1		−·0004	·0000	+ 0·6	+ 0·7	−·0001
27	52·4	56·2		22·8		−·0004	·0000	+ 0·6	+ 0·7	−·0001
32	52·7	56·1		22·4		−·0004	−·0001	+ 0·8	+ 0·5	−·0002
37	52·9	56·4		22·0		−·0004	−·0001	+ 0·9	+ 0·5	−·0002
42	52·9	56·5		21·9		−·0003	−·0001	+ 0·8	+ 0·3	−·0002
47	52·9	56·3		21·9		−·0003	−·0001	+ 0·8	+ 0·3	−·0002
52	52·8	56·2		21·9		−·0004	−·0001	+ 0·6	+ 0·5	−·0002
57	52·8	56·0		21·6		−·0004	−·0001	+ 0·5	+ 0·5	−·0002
21 00 02	52·9	56·0	56·4	21·6	56·7	−·0004	−·0001	+ 0·5	+ 0·5	−·0002
07	52·9	55·9		21·6		−·0004	−·0001	+ 0·5	+ 0·5	−·0002
12	52·9	55·6		21·3		−·0005	−·0002	+ 0·4	+ 0·5	−·0003
17	53·0	55·7		21·3		−·0005	−·0002	+ 0·5	+ 0·5	−·0003
22	53·2	55·9		21·0		−·0004	−·0002	+ 0·5	+ 0·3	−·0003
27	53·2	56·1		20·8		−·0004	−·0003	+ 0·5	+ 0·2	−·0003
32	53·1	56·0		20·8		−·0004	−·0003	+ 0·3	+ 0·2	−·0003
37	53·2	56·0		20·8		−·0004	−·0003	+ 0·4	+ 0·2	−·0003
42	53·5	56·2		20·5		−·0003	−·0003	+ 0·5	0·0	−·0003
47	53·6	56·1		20·3		−·0003	−·0004	+ 0·5	− 0·2	−·0002
52	53·8	56·8		20·0		−·0002	−·0004	+ 0·6	− 0·3	−·0001
57	54·2	56·3		19·7		−·0003	−·0005	+ 0·9	− 0·3	−·0002
01 02	54·2	56·0	56·5	19·9	56·7	−·0003	−·0004	+ 0·8	− 0·2	−·0004
07	53·9	55·8		20·5		−·0004	−·0003	+ 0·6	+ 0·2	−·0003
12	54·0	56·0		20·7		−·0003	−·0003	+ 0·7	0·0	−·0003
17	54·0	56·2		20·7		−·0003	−·0003	+ 0·7	0·0	−·0003
22	53·9	56·4		20·7		−·0002	−·0004	+ 0·6	− 0·3	−·0003
27	53·8	56·4		21·1		−·0002	−·0003	+ 0·5	− 0·2	−·0003

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OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
						$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
21 01 32	53·6	56·2		21·4		−·0002	−·0003	+ 0·4	− 0·2	−·0003
37	53·5	56·1		21·7		−·0002	−·0002	+ 0·2	0·0	−·0002
42	53·3	55·9		22·0		−·0003	−·0002	+ 0·1	+ 0·2	−·0002
47	53·1	55·9		22·3		−·0002	−·0002	− 0·1	0·0	−·0002
52	53·5	55·9		22·4		−·0002	−·0002	+ 0·2	0·0	−·0002
57	53·3	56·1		22·4		−·0002	−·0002	+ 0·1	0·0	−·0002
02 02	53·2	56·1	56·7	22·5	56·8	−·0002	−·0002	0·0	0·0	−·0002
07	53·0	56·2		22·9		−·0001	−·0001	− 0·2	0·0	−·0001
12	53·0	56·2		22·9		−·0001	−·0001	− 0·1	0·0	−·0001
17	52·9	56·1		23·2		−·0001	−·0001	− 0·2	0·0	−·0001
22	52·8	56·2		23·5		−·0001	−·0001	− 0·2	0·0	−·0001
27	52·8	56·2		23·6		−·0001	−·0001	− 0·2	0·0	−·0001
32	52·7	56·2		23·6		−·0001	−·0001	− 0·2	0·0	−·0001
37	52·5	56·1		23·8		−·0001	·0000	− 0·4	+ 0·2	·0000
42	52·3	56·1		24·0		−·0001	·0000	− 0·5	+ 0·2	·0000
47	52·2	56·1		24·1		−·0001	·0000	− 0·6	+ 0·2	·0000
52	52·0	56·1		24·3		−·0001	·0000	− 0·7	+ 0·2	·0000
57	52·0	56·1		24·3		·0000	·0000	− 0·7	0·0	·0000
03 02	52·0	56·3	56·8	24·3	57·0	·0000	·0000	− 0·7	0·0	·0000
07	51·9	56·3		24·3		·0000	·0000	− 0·8	0·0	·0000
12	51·9	56·4		24·3		·0000	·0000	− 0·7	0·0	·0000
17	51·9	56·9		24·3		+·0001	·0000	− 0·7	− 0·2	·0000
22	51·8	56·9		24·3		+·0001	·0000	− 0·8	− 0·2	·0000
27	51·5	56·8		24·3		+·0001	−·0001	− 0·9	− 0·3	·0000
32	51·4	56·3		24·3		·0000	−·0001	− 1·0	− 0·2	−·0001
37	51·4	55·9		24·6		−·0001	·0000	− 1·0	+ 0·2	·0000
42	51·3	55·7		24·8		−·0001	·0000	− 1·0	+ 0·2	·0000
47	51·2	55·5		24·8		−·0001	·0000	− 1·1	+ 0·2	·0000
52	51·2	55·4		24·9		−·0001	·0000	− 1·1	+ 0·2	·0000
57	51·2	55·4		24·9		−·0001	·0000	− 1·0	+ 0·2	·0000
04 02	51·0	55·2	56·7	24·9	56·9	−·0002	·0000	− 1·1	+ 0·3	−·0001
07	51·0	55·2		24·9		−·0002	·0000	− 1·1	+ 0·3	−·0001
12	51·1	55·0		25·1		−·0002	·0000	− 1·1	+ 0·3	−·0001
17	51·0	55·0		25·4		−·0002	+·0001	− 1·1	+ 0·5	·0000
22	50·9	54·6		25·4		−·0003	+·0001	− 1·2	+ 0·7	·0000
27	50·9	54·6		25·5		−·0003	+·0001	− 1·2	+ 0·7	·0000
32	50·9	54·5		25·5		−·0003	+·0001	− 1·2	+ 0·7	·0000
37	50·9	54·5		25·5		−·0003	·0000	− 1·1	+ 0·5	−·0001
42	50·9	54·4		25·8		−·0003	+·0001	− 1·1	+ 0·7	·0000
47	50·6	54·5		26·2		−·0002	+·0001	− 1·4	+ 0·5	·0000
52	50·3	54·3		26·2		−·0003	+·0001	− 1·6	+ 0·7	·0000
57	50·5	54·5		26·2		−·0002	+·0001	− 1·4	+ 0·5	·0000
05 02	50·5	54·2	56·6	26·2	56·8	−·0003	+·0001	− 1·4	+ 0·7	·0000
07	50·3	54·4		26·3		−·0002	+·0001	− 1·6	+ 0·5	·0000
12	50·1	54·1		25·8		−·0003	+·0001	− 1·7	+ 0·7	·0000
17	50·0	54·0		25·8		−·0003	+·0001	− 1·9	+ 0·7	·0000
22	49·9	53·7		26·0		−·0003	+·0001	− 2·0	+ 0·7	·0000
27	49·5	53·8		25·7		−·0004	+·0001	− 2·3	+ 0·5	·0000
32	49·7	53·5		25·6		−·0003	·0000	− 2·1	+ 0·5	−·0001
37	49·7	53·3		25·6		−·0003	+·0001	− 2·1	+ 0·7	·0000
42	49·5	53·0		25·6		−·0003	+·0001	− 2·3	+ 0·7	·0000
47	49·3	52·8		25·8		−·0003	+·0001	− 2·5	+ 0·7	·0000
52	49·3	52·3		25·8		−·0004	+·0001	− 2·5	+ 0·8	−·0001
57	49·4	51·8		25·9		−·0005	+·0001	− 2·4	+ 1·0	−·0004
06 02	49·4	51·6	56·7	25·9	57·2	−·0005	+·0001	− 2·4	+ 1·0	−·0001
07	49·3	51·4		26·1		−·0005	+·0002	− 2·5	+ 1·2	·0000
12	49·3	51·5		26·1		−·0005	+·0002	− 2·5	+ 1·2	·0000
17	49·3	51·5		25·9		−·0005	+·0001	− 2·5	+ 1·0	−·0001
22	49·6	51·7		25·5		−·0005	+·0001	− 2·3	+ 1·0	−·0001
27	49·6	51·7		25·4		−·0005	+·0001	− 2·3	+ 1·0	−·0001
32	50·0	51·7		25·1		−·0005	·0000	− 2·0	+ 0·8	−·0002
37	50·3	51·4		24·9		−·0005	·0000	− 1·8	+ 0·8	−·0002

1843.
Cape of Good Hope.

September 21.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
						$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
21 06 42	50·3	51·6		24·9		−·0005	·0000	− 1·8	+ 0·8	−·0002
47	50·0	51·6		25·1		−·0005	+·0001	− 2·0	+ 1·0	−·0001
52	50·0	51·7		25·1		−·0005	+·0001	− 2·0	+ 1·0	−·0001
57	49·7	51·1		25·3		−·0006	+·0001	− 2·3	+ 1·2	−·0001
07 02	49·5	50·0	56·7	26·4	57·2	−·0008	+·0003	− 2·4	+ 1·8	−·0001
07	48·5	49·4		27·2		−·0009	+·0005	− 3·2	+ 2·3	·0000
12	47·6	49·5		28·1		−·0009	+·0006	− 3·9	+ 2·5	+·0001
17	46·7	49·8		28·8		−·0008	+·0007	− 4·6	+ 2·5	+·0002
22	46·0	50·3		29·1		−·0007	+·0008	− 5·1	+ 2·5	+·0003
27	45·6	51·1		28·7		−·0006	+·0007	− 5·4	+ 2·1	+·0002
32	46·0	52·0		27·4		−·0004	+·0005	− 5·2	+ 1·5	+·0002
37	47·0	52·7		26·2		−·0003	+·0003	− 4·4	+ 1·0	+·0001
42	47·8	53·5		24·8		−·0001	·0000	− 3·8	+ 0·2	·0000
47	48·7	54·0		23·9		−·0001	−·0002	− 3·2	− 0·2	·0000
52	49·3	53·7		23·5		−·0001	−·0002	− 2·8	− 0·2	·0000
57	49·5	53·4		23·2		−·0002	−·0003	− 2·6	− 0·2	−·0003
08 02	49·7	54·0	56·4	22·8	56·9	·0000	−·0004	− 2·5	− 0·7	−·0003
07	50·0	54·0		22·5		·0000	−·0004	− 2·3	− 0·7	−·0003
12	50·3	54·0		22·2		·0000	−·0005	− 2·0	− 0·8	−·0003
17	50·5	54·0		22·2		·0000	−·0005	− 1·9	− 0·8	−·0003
22	50·7	54·0		22·2		·0000	−·0005	− 1·7	− 0·8	−·0003
27	50·8	53·7		22·2		−·0001	−·0005	− 1·7	− 0·7	−·0004
32	50·8	53·3		22·3		−·0002	−·0005	− 1·7	− 0·5	−·0004
37	51·0	53·3		22·3		−·0002	−·0005	− 1·4	− 0·5	−·0004
42	51·0	53·0		22·3		−·0002	−·0005	− 1·4	− 0·5	−·0004
47	51·2	52·8		22·5		−·0003	−·0004	− 1·3	− 0·2	−·0004
52	51·5	52·7		22·5		−·0003	−·0004	− 1·1	− 0·2	−·0004
57	51·4	52·7		22·6		−·0003	−·0004	− 1·1	− 0·2	−·0004
09 02	51·4	52·6	56·4	22·6	56·9	−·0003	−·0004	− 1·1	− 0·2	−·0004
07	51·3	52·5		22·7		−·0003	−·0004	− 1·2	− 0·2	−·0004
12	51·4	53·0		22·7		−·0003	−·0004	− 1·1	− 0·2	−·0004
17	51·6	53·0		22·6		−·0003	−·0004	− 1·0	− 0·2	−·0004
22	51·8	53·1		22·4		−·0003	−·0004	− 0·8	− 0·2	−·0004
27	51·8	52·8		22·6		−·0003	−·0004	− 0·8	− 0·2	−·0004
32	51·7	52·5		22·9		−·0004	−·0003	− 0·9	+ 0·2	−·0003
37	51·7	52·8		22·9		−·0003	−·0003	− 1·0	0·0	−·0003
42	51·9	52·8		22·9		−·0004	−·0003	− 0·8	+ 0·2	−·0003
47	51·8	52·4		22·8		−·0005	−·0003	− 0·9	+ 0·3	−·0004
52	51·8	52·7		22·4		−·0004	−·0003	− 0·9	+ 0·2	−·0003
57	51·8	53·0		22·3		−·0004	−·0004	− 0·9	0·0	−·0004

1843.
Van Diemen Island.

September 22.

For Mean Monthly Readings, *see* page 252.

VAN DIEMEN ISLAND, 1843. SEPTEMBER 22.

22 00 02	69·1	69·0	55·1	32·4	53·8	+·0005	−·0002	− 1·7	− 0·8	−·0001
01 02	68·9	67·5	55·0	37·3	53·8	+·0002	+·0001	− 1·8	− 0·1	+·0001
52	70·7	69·0		33·8		+·0002	+·0002	− 0·3	0·0	+·0002
57	70·8	—		—		—	—	− 0·2	—	—
02 02	72·0	68·9	54·8	36·7	53·7	+·0001	+·0003	+ 0·6	+ 0·2	+·0003
07	71·8	69·3		37·2		+·0002	+·0003	+ 0·5	+ 0·1	+·0003
12	73·0	69·8		38·7		+·0003	+·0003	+ 1·4	0·0	+·0003
17	73·4	—		—		—	—	+ 1·6	—	—
22	74·3	72·2		36·4		+·0009	+·0003	+ 2·3	− 0·7	+·0004
27	74·2	74·2		30·6		+·0014	·0000	+ 2·2	− 1·5	+·0001
32	72·7	74·9		27·1		+·0015	−·0001	+ 1·1	− 1·7	+·0001
37	71·7	74·5		23·9		+·0014	−·0002	+ 0·4	− 1·7	·0000
42	70·4	73·7		21·9		+·0012	−·0003	− 0·6	− 1·6	−·0001
47	69·3	73·2		21·9		+·0011	−·0003	− 1·4	− 1·5	−·0002
52	67·7	73·5		21·2		+·0012	−·0003	− 2·5	− 1·6	−·0001
57	66·6	74·2		20·3		+·0013	−·0003	− 3·3	− 1·7	−·0001
03 02	65·5	75·1	54·8	19·7	53·6	+·0015	−·0004	− 4·1	− 1·9	−·0002

1843. Van Diemen Island.

September 22.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours. $\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	″	Parts of Total Force.
22 03 07	66·0	76·1		18·3		+·0018	−·0004	− 3·8	− 2·4	−·0002
12	66·6	75·7		17·9		+·0017	−·0004	− 3·4	− 2·3	−·0002
17	67·0	74·7		19·0		+·0015	−·0004	− 3·1	− 1·9	−·0002
22	67·3	73·3		21·4		+·0012	−·0003	− 3·0	− 1·6	−·0001
27	67·2	72·4		23·4		+·0010	−·0003	− 3·1	− 1·4	−·0002
32	66·9	71·7		27·1		+·0009	−·0001	− 3·4	− 1·1	·0000
37	68·2	71·6		30·8		+·0009	·0000	− 2·5	− 1·0	+·0001
42	70·1	72·0		32·2		+·0010	·0000	− 1·2	− 1·1	+·0001
47	72·3	73·0		32·2		+·0012	·0000	+ 0·3	− 1·3	+·0001
52	72·5	72·8		32·4		+·0012	·0000	+ 0·4	− 1·3	+·0001
57	72·6	72·5		32·4		+·0011	·0000	+ 0·4	− 1·2	+·0001
04 02	72·4	72·4	54·8	32·4	53·5	+·0011	·0000	+ 0·2	− 1·2	+·0001
05 02	72·6	70·2	54·8	32·9	53·5	+·0005	+·0001	− 0·3	− 0·4	+·0001

1843. St. Helena.

October 17.

ST. HELENA, 1843. OCTOBER 17.

MEAN MONTHLY READINGS OF THE MAGNETOMETERS.

Mean Göttingen Time.	Declination.	H. F. at 60°·6.	V. F. at 60°·5.	Mean Göttingen Time.	Declination.	H. F. at 60°·6.	V. F. at 60°·5.
Hours.	Sc. Div.	Sc. Div.	Sc. Div.	Hours.	Sc. Div.	Sc. Div.	Sc. Div.
00	12·9	84·5	48·9	12	10·7	77·8	49·1
01	14·1	84·6	49·0	13	10·5	77·9	49·0
02	13·8	84·1	49·3	14	10·3	78·2	49·0
03	12·4	83·4	49·7	15	10·1	78·6	49·0
04	10·3	82·3	49·9	16	9·9	78·5	49·0
05	9·4	81·3	50·0	17	9·8	78·5	48·8
06	9·6	80·0	50·0	18	9·7	78·4	48·7
07	10·0	79·5	50·0	19	10·0	78·3	48·8
08	10·2	78·4	49·9	20	8·1	79·3	48·7
09	10·5	78·0	49·6	21	7·6	80·8	48·7
10	10·6	77·5	49·2	22	8·8	82·8	48·6
11	10·8	77·7	49·3	23	10·7	84·0	48·6

Coefficients (A), Approximate Absolute Values (B).

(A) Declin. $a = 0'·711$

H. F. $k = ·00019$, $q = ·00028$

V. F. $k = ·00085$, $q = ·00002$

(B) Approx. $\psi = -23°\,16'$, $X = 5·57$, $Y = 2·22$, $\theta = -21°\,44'$, $\phi = 6·00$

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours. $\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	″	Parts of Total Force.
17 01 02	12·8	80·0	61·9	42·7	61·6	−·0003	−·0054	− 0·9	− 6·0	−·0010
02 02	13·2	74·8	62·8	43·0	62·4	−·0012	−·0054	− 0·4	− 4·9	−·0018
07	13·0	75·2		43·0		−·0011	−·0054	− 0·5	− 4·9	−·0017
12	12·6	76·2		43·0		−·0009	−·0054	− 0·7	− 5·3	−·0015
17	12·4	76·2		43·0		−·0008	−·0054	− 0·8	− 5·4	−·0014
22	12·2	76·6		43·0		−·0007	−·0054	− 0·8	− 5·4	−·0013
27	12·0	77·0		43·2		−·0006	−·0054	− 0·8	− 5·7	−·0013
32	11·8	77·5		43·2		−·0005	−·0054	− 0·9	− 5·8	−·0012
37	11·6	77·8		43·2		−·0004	−·0054	− 1·0	− 5·9	−·0011
42	11·7	78·1		43·2		−·0003	−·0054	− 0·8	− 6·0	−·0010
47	11·5	78·4		43·2		−·0003	−·0054	− 0·9	− 6·0	−·0010
52	11·3	78·7		43·2		−·0002	−·0054	− 0·9	− 6·1	−·0009
57	11·1	78·8		43·3		−·0002	−·0054	− 1·0	− 6·1	−·0009

1843.
St. Helena.

October 17.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
						$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
17 03 02	11·0	78·4	63·3	43·3	62·9	−·0002	−·0054	− 1·0	− 6·1	−·0009
07	11·0	78·3		43·3		−·0002	−·0054	− 0·8	− 6·1	−·0009
12	10·7	78·0		43·3		−·0002	−·0054	− 0·9	− 6·1	−·0009
17	10·7	77·8		43·3		−·0002	−·0054	− 0·8	− 6·1	−·0009
22	10·6	77·2		43·3		−·0003	−·0055	− 0·8	− 6·1	−·0010
27	10·6	77·1		43·3		−·0003	−·0055	− 0·6	− 6·1	−·0010
32	10·6	77·8		43·5		−·0002	−·0054	− 0·5	− 6·1	−·0009
37	10·7	77·0		43·5		−·0003	−·0054	− 0·4	− 6·0	−·0010
42	10·7	76·8		43·5		−·0003	−·0054	− 0·2	− 6·0	−·0010
47	10·7	76·6		43·5		−·0003	−·0054	− 0·1	− 6·0	−·0010
52	10·8	76·0		43·5		−·0004	−·0054	+ 0·1	− 5·9	−·0011
57	10·8	75·9		43·5		−·0004	−·0054	+ 0·2	− 5·9	−·0011
04 02	10·4	75·2	63·7	43·5	63·3	−·0005	−·0054	+ 0·1	− 5·8	−·0012
07	10·3	75·1		43·5		−·0005	−·0054	+ 0·1	− 5·8	−·0012
12	10·0	74·8		43·5		−·0005	−·0054	− 0·1	− 5·8	−·0012
17	9·9	74·8		43·5		−·0005	−·0054	− 0·1	− 5·8	−·0012
22	9·9	73·8		43·5		−·0007	−·0054	− 0·1	− 5·4	−·0013
27	9·4	73·3		43·5		−·0008	−·0054	− 0·4	− 5·4	−·0014
32	9·3	73·4		43·5		−·0007	−·0054	− 0·4	− 5·4	−·0013
37	9·2	73·8		43·5		−·0006	−·0054	− 0·4	− 5·7	−·0013
42	9·2	73·2		43·6		−·0007	−·0054	− 0·4	− 5·4	−·0013
47	9·2	73·0		43·6		−·0007	−·0054	− 0·3	− 5·4	−·0013
52	9·4	73·2		43·6		−·0007	−·0054	− 0·1	− 5·4	−·0013
57	9·6	73·6		43·6		−·0006	−·0054	+ 0·1	− 5·7	−·0013
05 02	9·6	74·0	63·9	43·8	63·5	−·0005	−·0052	+ 0·1	− 5·6	−·0011

1843.
Toronto.

October 18.

TORONTO, 1843. OCTOBER 18—19.

MEAN MONTHLY READINGS OF THE MAGNETOMETERS.

Mean Göttingen Time.	Declination.	H. F.(a) at 51°·9.	V. F. at ——	Mean Göttingen Time.	Declination.	H. F. (a) at 51°·9.	V. F. at ——
Hours.	Sc. Div.	Sc. Div.	Sc. Div.	Hours.	Sc. Div.	Sc. Div.	Sc. Div.
00	125·7	33·6	—	12	124·7	37·5	—
01	128·1	32·1	—	13	125·4	35·7	—
02	128·8	30·2	—	14	126·3	35·9	—
03	129·2	29·1	—	15	127·2	34·1	—
04	126·7	27·3	—	16	126·4	34·1	—
05	123·2	26·7	—	17	126·2	31·6	—
06	120·8	29·2	—	18	125·2	30·2	—
07	120·1	30·4	—	19	126·0	30·4	—
08	120·3	35·3	—	20	126·0	30·6	—
09	121·4	37·9	—	21	126·1	31·8	—
10	122·5	40·2	—	22	126·5	32·5	—
11	123·9	39·7	—	23	126·2	32·9	—

Coefficients (A), Approximate Absolute Values (B).

(A) Declin. $a = 0'·721$

H. F. $k = ·00087$, $q = ·00027$

V. F. $k = —$, $q = —$

(B) Approx. $\psi = 1° 24'$, $X = 3·54$, $Y = 13·44$, $\theta = 75° 16'$, $\phi = 13·90$

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
						$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
18 10 02	124·2	34·2	53·6	—	—	·0000	—	+ 1·2	—	—
07	124·0	33·6		—		−·0001	—	+ 1·0	—	—
12	124·4	36·0		—		+·0001	—	+ 1·2	—	—
17	124·3	36·6		—		+·0002	—	+ 1·1	—	—

(a) The H. F. Magnetometer having been newly adjusted in the early part of October the means are taken from the 11th to the 31st instant.

1843.
Toronto.

October 18.

OBSERVATIONS OF THE MAGNETOMETERS. The Declination was observed 2m. before the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta \psi$	$\Delta \theta$	$\frac{\Delta \phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
18 10 22	124·8	36·0		—		+·0002	—	+ 1·3	—	—
27	124·1	33·6		—		−·0001	—	+ 0·7	—	—
32	124·2	35·2		—		+·0001	—	+ 0·7	—	—
37	123·7	34·2		—		·0000	—	+ 0·3	—	—
42	124·1	30·6		—		−·0003	—	+ 0·5	—	—
47	124·2	35·1		—		+·0001	—	+ 0·5	—	—
52	125·2	31·1		—		−·0002	—	+ 1·1	—	—
57	125·1	27·8		—		−·0005	—	+ 0·9	—	—
11 02	124·3	28·4	53·8	—	—	−·0005	—	+ 0·3	—	—
07	124·9	29·9		—		−·0003	—	+ 0·6	—	—
12	125·8	26·3		—		−·0006	—	+ 1·3	—	—
17	125·5	27·3		—		−·0005	—	+ 1·0	—	—
22	124·9	25·9		—		−·0006	—	+ 0·5	—	—
27	125·3	28·0		—		−·0006	—	+ 0·8	—	—
32	125·7	27·9		—		−·0004	—	+ 1·0	—	—
37	125·6	29·2		—		−·0002	—	+ 0·8	—	—
42	124·8	28·8		—		−·0002	—	+ 0·3	—	—
47	124·8	28·8		—		−·0002	—	+ 0·2	—	—
52	124·3	30·8		—		·0000	—	− 0·2	—	—
57	125·6	29·7		—		−·0001	—	+ 0·7	—	—
12 02	125·1	30·4	54·2	—	—	·0000	—	+ 0·3	—	—
07	125·0	30·8		—		+·0001	—	+ 0·1	—	—
12	125·6	30·8		—		+·0001	—	+ 0·6	—	—
17	125·9	32·7		—		+·0002	—	+ 0·7	—	—
22	125·5	33·9		—		+·0003	—	+ 0·4	—	—
27	124·3	33·1		—		+·0003	—	− 0·5	—	—
32	124·9	31·9		—		+·0002	—	− 0·1	—	—
37	124·2	32·0		—		+·0002	—	− 0·6	—	—
42	124·3	31·4		—		+·0002	—	− 0·6	—	—
47	124·2	32·0		—		+·0002	—	− 0·7	—	—
52	124·4	32·5		—		+·0003	—	− 0·6	—	—
57	124·6	33·6		—		+·0004	—	− 0·5	—	—
13 02	124·3	32·4	54·0	—	—	+·0003	—	− 0·8	—	—
07	125·0	32·3		—		+·0003	—	− 0·4	—	—
12	125·6	33·4		—		+·0004	—	0·0	—	—
17	125·8	33·5		—		+·0004	—	+ 0·1	—	—
22	125·2	32·1		—		+·0003	—	− 0·4	—	—
27	125·2	32·1		—		+·0003	—	− 0·4	—	—
32	125·6	32·4		—		+·0003	—	− 0·2	—	—
37	125·7	34·5		—		+·0005	—	− 0·1	—	—
42	125·8	33·1		—		+·0004	—	− 0·1	—	—
47	126·8	33·1		—		+·0004	—	+ 0·5	—	—
52	127·0	33·6		—		+·0005	—	+ 0·6	—	—
57	126·5	33·4		—		+·0005	—	+ 0·2	—	—
14 02	126·5	33·3	54·5	—	—	+·0005	—	+ 0·1	—	—
07	126·5	32·9		—		+·0005	—	+ 0·1	—	—
12	126·6	33·4		—		+·0005	—	+ 0·1	—	—
17	126·8	33·2		—		+·0005	—	+ 0·2	—	—
22	126·8	33·3		—		+·0005	—	+ 0·1	—	—
27	126·8	29·7		—		+·0002	—	+ 0·1	—	—
32	128·0	27·3		—		·0000	—	+ 0·8	—	—
37	136·4	27·0		—		·0000	—	+ 6·9	—	—
42	137·0	27·6		—		+·0001	—	+ 7·3	—	—
47	135·1	26·4		—		·0000	—	+ 5·9	—	—
52	134·4	26·8		—		·0000	—	+ 5·2	—	—
57	133·2	26·4		—		·0000	—	+ 4·4	—	—
15 02	132·4	24·3	54·5	—	—	−·0002	—	+ 3·7	—	—
07	134·5	23·2		—		−·0003	—	+ 5·3	—	—
12	137·6	24·3		—		−·0002	—	+ 7·6	—	—
17	141·7	29·0		—		+·0003	—	+10·6	—	—
22	144·9	34·5		—		+·0007	—	+13·0	—	—
27	147·1	38·8		—		+·0011	—	+14·5	—	—

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OBSERVATIONS OF THE MAGNETOMETERS. The Declination was observed 2m. before the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
18 15 32	148·9	44·7		—		+·0016	—	+15·9	—	—
37	149·0	46·5		—		+·0018	—	+16·0	—	—
42	147·1	44·8		—		+·0016	—	+14·7	—	—
47	145·0	41·0		—		+·0013	—	+13·3	—	—
52	143·0	36·7		—		+·0009	—	+11·9	—	—
57	140·5	33·0		—		+·0006	—	+10·1	—	—
16 02	139·3	31·5	54·5	—	—	+·0005	—	+ 9·2	—	—
07	142·1	28·0		—		+·0002	—	+11·3	—	—
12	144·5	25·1		—		·0000	—	+13·1	—	—
17	145·7	22·5		—		−·0003	—	+13·9	—	—
22	145·4	20·0		—		−·0005	—	+13·8	—	—
27	144·8	17·1		—		−·0007	—	+13·4	—	—
32	142·7	11·8		—		−·0011	—	+11·8	—	—
37	139·2	7·9		—		−·0014	—	+ 9·2	—	—
42	139·0	8·0		—		−·0014	—	+ 9·1	—	—
47	137·1	10·1		—		−·0012	—	+ 7·8	—	—
52	135·1	11·8		—		−·0011	—	+ 6·4	—	—
57	132·4	15·0		—		−·0008	—	+ 4·4	—	—
17 02	129·2	15·0	54·5	—	—	−·0008	—	+ 2·2	—	—
07	127·2	16·0		—		−·0006	—	+ 0·8	—	—
12	127·0	19·6		—		−·0003	—	+ 0·7	—	—
17	126·9	21·0		—		−·0002	—	+ 0·6	—	—
22	126·0	23·9		—		+·0001	—	+ 0·1	—	—
27	125·5	26·9		—		+·0004	—	− 0·2	—	—
32	124·7	29·0		—		+·0005	—	− 0·7	—	—
37	125·0	30·9		—		+·0007	—	− 0·4	—	—
42	125·7	30·0		—		+·0006	—	+ 0·1	—	—
47	126·3	30·0		—		+·0007	—	+ 0·6	—	—
52	126·8	29·9		—		+·0007	—	+ 1·0	—	—
57	127·0	30·6		—		+·0007	—	+ 1·2	—	—
18 02	127·0	31·0	54·5	—	—	+·0008	—	+ 1·3	—	—
07	126·0	31·9		—		+·0009	—	+ 0·6	—	—
12	125·0	33·0		—		+·0010	—	− 0·2	—	—
17	124·0	33·0		—		+·0010	—	− 1·0	—	—
22	123·2	32·9		—		+·0009	—	− 1·6	—	—
27	123·4	32·3		—		+·0009	—	− 1·5	—	—
32	124·0	32·0		—		+·0009	—	− 1·1	—	—
37	124·0	32·2				+·0009	—	− 1·2	—	—
42	123 8	32·5		—		+·0009	—	− 1·3	—	—
47	124·0	32·0		—		+·0009	—	− 1·3	—	—
52	124·0	32·5		—		+·0009	—	− 1·3	—	—
57	123·8	33·0		—		+·0010	—	− 1·5	—	—
19 02	123·7	32·9	54·6	—	—	+·0010	—	− 1·6	—	—
07	123·6	32·6		—		+·0009	—	− 1·7	—	—
12	123·8	33·0		—		+·0009	—	− 1·5	—	—
17	124·6	31·1		—		+·0008	—	− 1·0	—	—
22	125·6	30·4		—		+·0007	—	− 0·3	—	—
27	126·0	30·5		—		+·0007	—	0·0	—	—
32	125·5	30·6		—		+·0007	—	− 0·4	—	—
37	124·9	31·4		—		+·0007	—	− 0·8	—	—
42	124·0	31·4		—		+·0007	—	− 1·4	—	—
47	124·0	32·1		—		+·0008	—	− 1·4	—	—
52	124·0	32·3		—		+·0008	—	− 1·4	—	—
57	124·6	32·4		—		+·0008	—	− 1·0	—	—
20 02	125·0	31·6	54·2	—	—	+·0007	—	− 0·7	—	—
07	125·0	30·8		—		+·0006	—	− 0·7	—	—
12	125·0	31·4		—		+·0007	—	− 0·7	—	—
17	124·7	31·9		—		+·0007	—	− 0·9	—	—
22	124·5	31·9		—		+·0007	—	− 1·1	—	—
27	124·2	32·5		—		+·0007	—	− 1·3	—	—
32	124·8	33·3		—		+·0008	—	− 0·8	—	—
37	124·5	33·5		—		+·0008	—	− 1·1	—	—

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Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
18 20 42	124·8	33·0		—		+·0008	—	− 0·9	—	—
47	125·2	33·7		—		+·0008	—	− 0·6	—	—
52	125·4	32·1		—		+·0007	—	− 0·5	—	—
57	126·1	32·6		—		+·0007	—	0·0	—	—
21 02	125·5	33·5	54·2	—	—	+·0008	—	− 0·4	—	—
07	125·1	33·5		—		+·0008	—	− 0·7	—	—
12	125·1	34·2		—		+·0008	—	− 0·8	—	—
17	125·0	34·0		—		+·0008	—	− 0·8	—	—
22	124·0	33·9		—		+·0008	—	− 1·5	—	—
27	123·8	33·9		—		+·0007	—	− 1·8	—	—
32	123·9	34·6		—		+·0008	—	− 1·7	—	—
37	124·1	35·0		—		+·0008	—	− 1·5	—	—
42	124·5	35·0		—		+·0008	—	− 1·3	—	—
47	124·8	35·2		—		+·0008	—	− 1·1	—	—
52	125·8	35·5		—		+·0008	—	− 0·4	—	—
57	125·4	34·7		—		+·0007	—	− 0·8	—	—
22 02	125·2	35·0	53·8	—	—	+·0007	—	− 0·9	—	—
07	125·2	35·1		—		+·0008	—	− 0·9	—	—
12	125·3	34·5		—		+·0007	—	− 0·8	—	—
17	125·3	34·6		—		+·0007	—	− 0·8	—	—
22	125·2	35·0		—		+·0007	—	− 0·8	—	—
27	125·7	34·2		—		+·0007	—	− 0·5	—	—
32	126·0	35·7		—		+·0008	—	− 0·2	—	—
37	125·9	35·5		—		+·0008	—	− 0·3	—	—
42	125·9	34·7		—		+·0007	—	− 0·3	—	—
47	125·9	34·5		—		+·0007	—	− 0·3	—	—
52	125·8	35·4		—		+·0008	—	− 0·3	—	—
57	127·0	36·9		—		+·0009	—	+ 0·6	—	—
23 02	126·1	36·4	54·0	—	—	+·0009	—	− 0·1	—	—
07	123·7	35·1		—		+·0007	—	− 1·8	—	—
12	124·8	34·4		—		+·0007	—	− 0·9	—	—
17	125·4	35·1		—		+·0007	—	− 0·5	—	—
22	125·4	36·0		—		+·0008	—	− 0·4	—	—
27	125·5	34·4		—		+·0006	—	− 0·4	—	—
32	126·5	35·4		—		+·0007	—	+ 0·4	—	—
37	126·8	36·2		—		+·0008	—	+ 0·6	—	—
42	126·5	35·2		—		+·0007	—	+ 0·4	—	—
47	127·1	35·6		—		+·0007	—	+ 0·9	—	—
52	127·0	34·2		—		+·0006	—	+ 0·8	—	—
57	127·4	33·5		—		+·0007	—	+ 1·2	—	—
19 00 02	126·7	35·0	53·8	—	—	+·0006	—	+ 0·7	—	—
07	126·8	35·3		—		+·0007	—	+ 0·6	—	—
12	126·4	34·3		—		+·0006	—	+ 0·2	—	—
17	126·8	34·6		—		+·0006	—	+ 0·4	—	—
22	127·3	35·0		—		+·0006	—	+ 0·6	—	—
27	127·1	35·2		—		+·0006	—	+ 0·3	—	—
32	127·2	35·4		—		+·0007	—	+ 0·2	—	—
37	126·8	34·9		—		+·0006	—	− 0·2	—	—
42	127·4	35·0		—		+·0006	—	+ 0·1	—	—
47	127·5	34·1		—		+·0005	—	0·0	—	—
52	128·0	33·6		—		+·0005	—	+ 0·2	—	—
57	128·2	33·7		—		+·0005	—	+ 0·2	—	—
01 02	128·1	33·5	53·2	—	—	+·0005	—	0·0	—	—
07	128·1	32·5		—		+·0004	—	− 0·1	—	—
12	128·7	32·0		—		+·0004	—	+ 0·4	—	—
17	128·6	31·8		—		+·0004	—	+ 0·2	—	—
22	128·5	30·8		—		+·0004	—	+ 0·1	—	—
27	128·5	31·0		—		+·0004	—	+ 0·1	—	—
32	128·4	30·2		—		+·0004	—	0·0	—	—
37	129·5	30·5		—		+·0004	—	+ 0·7	—	—
42	129·3	31·2		—		+·0005	—	+ 0·6	—	—
47	129·7	30·7		—		+·0005	—	+ 0·8	—	—

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OBSERVATIONS OF THE MAGNETOMETERS. The Declination was observed 2m. before the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta \psi$	$\Delta \theta$	$\frac{\Delta \phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
19 01 52	129·9	30·4		—		+·0005	—	+ 0·8	—	—
57	129·8	30·7		—		+·0006	—	+ 0·8	—	—
02 02	129·8	30·8	54·0	—	—	+·0006	—	+ 0·7	—	—
07	129·5	32·8		—		+·0008	—	+ 0·5	—	—
12	128·9	31·4		—		+·0007	—	0·0	—	—
17	128·6	30·9		—		+·0008	—	− 0·2	—	—
22	129·1	28·8		—		+·0005	—	+ 0·1	—	—
27	129·8	29·0		—		+·0006	—	+ 0·6	—	—
32	129·2	29·1		—		+·0006	—	+ 0·1	—	—
37	128·8	29·0		—		+·0006	—	− 0·1	—	—
42	127·9	31·8		—		+·0009	—	− 0·8	—	—
47	127·1	31·6		—		+·0009	—	− 1·4	—	—
52	127·7	30·1		—		+·0008	—	− 1·0	—	—
57	128·0	30·3		—		+·0008	—	− 0·8	—	—
03 02	128·7	32·4	54·5	—	—	+·0010	—	− 0·4	—	—
07	128·1	31·8		—		+·0010	—	− 0·6	—	—
12	126·7	32·4		—		+·0010	—	− 1·5	—	—
17	126·5	29·6		—		+·0008	—	− 1·5	—	—
22	129·1	31·5		—		+·0010	—	+ 0·5	—	—
27	129·0	32·5		—		+·0011	—	+ 0·6	—	—
32	127·0	33·0		—		+·0012	—	− 0·7	—	—
37	126·9	34·3		—		+·0013	—	− 0·6	—	—
42	127·2	33·9		—		+·0013	—	− 0·2	—	—
47	126·4	34·5		—		+·0014	—	− 0·6	—	—
52	126·4	33·9		—		+·0014	—	− 0·5	—	—
57	125·9	34·1		—		+·0014	—	− 0·7	—	—
04 02	126·1	35·6	55·0	—	—	+·0016	—	− 0·4	—	—
07	127·0	37·4		—		+·0017	—	+ 0·4	—	—
12	126·8	38·0		—		+·0018	—	+ 0·5	—	—
17	126·0	39·3		—		+·0019	—	+ 0·1	—	—
22	126·0	39·0		—		+·0019	—	+ 0·4	—	—
27	126·0	38·4		—		+·0018	—	+ 0·6	—	—
32	126·1	38·9		—		+·0019	—	+ 0·8	—	—
37	126·1	39·0		—		+·0019	—	+ 1·0	—	—
42	126·9	38·0		—		+·0018	—	+ 1·8	—	—
47	127·0	38·0		—		+·0018	—	+ 2·0	—	—
52	126·6	37·1		—		+·0017	—	+ 2·0	—	—
57	125·3	35·6		—		+·0016	—	+ 1·3	—	—
05 02	124·1	35·4	55·0	—	—	+·0016	—	+ 0·6	—	—
07	124·1	33·9		—		+·0015	—	+ 0·8	—	—
12	123·3	30·8		—		+·0012	—	+ 0·4	—	—
17	122·2	30·3		—		+·0011	—	− 0·3	—	—
22	121·8	29·5		—		+·0010	—	− 0·4	—	—
27	122·0	29·8		—		+·0010	—	0·0	—	—
32	122·5	30·4		—		+·0011	—	+ 0·4	—	—
37	122·5	29·6		—		+·0010	—	+ 0·6	—	—
42	122·6	30·6		—		+·0011	—	+ 0·7	—	—
47	123·7	31·3		—		+·0011	—	+ 1·6	—	—
52	124·0	32·5		—		+·0012	—	+ 2·0	—	—
57	124·0	33·4		—		+·0013	—	+ 2·2	—	—
06 02	123·9	33·7	55·2	—	—	+·0013	—	+ 2·3	—	—
07	123·8	34·0		—		+·0013	—	+ 2·3	—	—
12	123·8	34·6		—		+·0013	—	+ 2·3	—	—
17	123·2	34·7		—		+·0013	—	+ 1·8	—	—
22	123·3	35·5		—		+·0014	—	+ 1·9	—	—
27	123·5	35·7		—		+·0014	—	+ 2·2	—	—
32	123·2	35·6		—		+·0014	—	+ 1·9	—	—
37	123·4	35·8		—		+·0014	—	+ 2·2	—	—
42	123·2	36·2		—		+·0014	—	+ 2·0	—	—
47	123·3	36·2		—		+·0014	—	+ 2·2	—	—
52	122·9	35·9		—		+·0013	—	+ 1·9	—	—
57	123·0	36·6		—		+·0014	—	+ 2·0	—	—

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OBSERVATIONS OF THE MAGNETOMETERS. The Declination was observed 2m. before, and the V. F. 1m. after the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta \psi$	$\Delta \theta$	$\frac{\Delta \phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
19 07 02	122·8	36·1	54·9	—	—	+·0013	—	+ 1·9	—	—
07	122·1	35·5		—		+·0012	—	+ 1·4	—	—
12	122·6	35·4		—		+·0012	—	+ 1·8	—	—
17	122·8	34·9		—		+·0011	—	+ 1·9	—	—
22	122·9	33·9		—		+·0009	—	+ 1·9	—	—
27	122·9	35·3		—		+·0010	—	+ 1·9	—	—
32	123·1	35·4		—		+·0010	—	+ 2·0	—	—
37	123·0	36·3		—		+·0010	—	+ 2·0	—	—
42	122·9	36·9		—		+·0010	—	+ 1·9	—	—
47	122·4	35·5		—		+·0009	—	+ 1·5	—	—
52	122·5	35·8		—		+·0008	—	+ 1·5	—	—
57	122·2	34·2		—		+·0007	—	+ 1·3	—	—
08 02	122·5	32·6	54·5	—	—	+·0005	—	+ 1·5	—	—
07	122·6	31·8		—		+·0004	—	+ 1·5	—	—
12	122·2	29·5		—		+·0002	—	+ 1·2	—	—
17	122 4	28·9		—		+·0002	—	+ 1·3	—	—
22	122·8	28·1		—		+·0001	—	+ 1·5	—	—
27	122·8	26·9		—		·0000	—	+ 1·4	—	—
32	123·0	27·3		—		+·0001	—	+ 1·5	—	—
37	123·0	28·9		—		+·0002	—	+ 1·5	—	—
42	123·0	32·0		—		+·0005	—	+ 1·4	—	—
47	123·2	32·9		—		+·0006	—	+ 1·5	—	—
52	122·8	30·9		—		+·0004	—	+ 1·1	—	—
57	122·8	30·1		—		+·0003	—	+ 1·1	—	—
09 02	122·8	28·7	55·7	—	—	+·0002	—	+ 1·0	—	—
07	122·7	27·3		—		+·0001	—	+ 0·8	—	—
12	122·8	26·6		—		+·0002	—	+ 0·8	—	—
17	123·2	27·4		—		+·0001	—	+ 1·1	—	—
22	123·5	27·4		—		+·0001	—	+ 1·2	—	—
27	124·2	28·3		—		+·0001	—	+ 1·6	—	—
32	124·2	27·9		—		+·0001	—	+ 1·6	—	—
37	123·0	25·8		—		−·0001	—	+ 0·7	—	—
42	123·9	28·1		—		+·0001	—	+ 1·3	—	—
47	123·6	28·9		—		+·0002	—	+ 1·0	—	—
52	124·2	29·9		—		+·0002	—	+ 1·3	—	—
57	124·1	28·4		—		+·0001	—	+ 1·2	—	—

1843.
St. Helena.

October 23.

For Mean Monthly Readings, *see* page 276.

ST. HELENA, 1843. OCTOBER 23—24.

23 22 02	8·0	91·0	59·7	49·8	59·6	+·0013	+·0010	− 0·6	− 0·2	+·0013
07	8·0	91·0		50·1		+·0013	+·0013	− 0·7	0·0	+·0013
12	8·0	91·0		50·1		+·0013	+·0013	− 0·8	0·0	+·0013
17	8·2	91·0		50·0		+·0013	+·0012	− 0·8	− 0·1	+·0013
22	8·3	90·9		50·0		+·0013	+·0012	− 0·8	− 0·1	+·0013
27	8·4	91·0		50·0		+·0013	+·0012	− 0·8	− 0·1	+·0013
32	8·5	91·0		50·3		+·0013	+·0015	− 0·8	+ 0·2	+·0013
37	8·6	91·0		50·3		+·0013	+·0015	− 0·9	+ 0·2	+·0013
42	8·7	91·0		50·3		+·0012	+·0015	− 1·0	+ 0·2	+·0012
47	8·7	91·1		50·3		+·0013	+·0015	− 1·1	+ 0·2	+·0013
52	8·8	91·2		50·3		+·0013	+·0015	− 1·1	+ 0·2	+·0013
57	9·0	91·2		50·3		+·0013	+·0015	− 1·1	+ 0·2	+·0013
23 02	9·1	91·1	60·1	50·3	60·0	+·0012	+·0015	− 1·1	+ 0·2	+·0012
07	9·2	91·1		50·1		+·0012	+·0013	− 1·2	+ 0·1	+·0012
12	9·3	91·4		50·1		+·0013	+·0012	− 1·3	− 0·1	+·0013
17	9·5	91·5		50·2		+·0013	+·0013	− 1·2	0·0	+·0013
22	9·6	91·6		50·1		+·0013	+·0012	− 1·3	− 0·1	+·0013
27	9·9	91·1		50·1		+·0012	+·0012	− 1·2	0·0	+·0012
32	10·1	91·2		50·1		+·0013	+·0011	− 1·2	− 0·2	+·0013
37	10·4	90·8		50·1		+·0012	+·0011	− 1·1	− 0·1	+·0012
42	10·7	90·4		50·1		+·0011	+·0011	− 1·1	0·0	+·0011
47	11·0	90·5		50·1		+·0011	+·0011	− 0·9	0·0	+·0011

1843.
St. Helena.

October 23—24.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
						$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta \psi$	$\Delta \theta$	$\frac{\Delta \phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
23 23 52	11·3	90·7		50·1		+·0012	+·0010	− 0·8	− 0·2	+·0012
57	11·9	90·9		50·1		+·0012	+·0010	− 0·6	− 0·2	+·0012
24 00 02	12·2	90·9	60·5	50·3	60·4	+·0012	+·0012	− 0·5	0·0	+·0012
07	13·4	88·8		50·4		+·0011	+·0013	− 0·1	+ 0·2	+·0011
01 02	14·2	87·8	61·0	50·5	60·8	+·0007	+·0013	+ 0·1	+ 0·7	+·0008
02 02	13·2	84·4	61·1	50·3	61·1	+·0002	+·0013	− 0·6	+ 1·3	+·0004

1843.
Van Diemen Island.

November 24.

VAN DIEMEN ISLAND, 1843. NOVEMBER 24.

MEAN MONTHLY READINGS OF THE MAGNETOMETERS.

Mean Göttingen Time.	Declination.	H. F. at 60°·4.	V. F. at 58°·9.	Mean Göttingen Time.	Declination.	H. F. at 60°·4.	V. F. at 58°·9.
Hours.	Sc. Div.	Sc. Div.	Sc. Div.	Hours.	Sc. Div.	Sc. Div.	Sc. Div.
00	72·5	179·7	35·1	12	65·9	174·7	31·0
01	71·8	179·9	34·3	13	68·8	173·1	32·6
02	72·3	179·6	35·4	14	72·5	172·9	33·5
03	71·9	179·7	32·3	15	77·0	174·6	33·0
04	71·7	180·0	31·3	16	80·5	176·9	33·2
05	71·6	179·1	32·4	17	81·5	178·8	32·7
06	72·0	179·1	31·7	18	80·5	179·5	33·3
07	72·2	179·0	31·0	19	78·9	179·8	34·0
08	71·1	178·9	29·1	20	76·5	179·7	34·6
09	70·0	179·0	27·7	21	74·5	179·9	34·9
10	67·8	178·4	26·6	22	73·8	179·7	34·6
11	66·0	176·7	28·4	23	73·2	179·9	34·2

Coefficients (A), Approximate Absolute Values (B.)

(A)
- Declin. $a = 0'·71$
- H. F. $k = ·000230$, $q = ·000234$
- V. F. $k = ·000036$, $q = ·00021$

(B) Approx.
- $\psi = -9° 55'$
- $X = 4·51$
- $Y = 12·86$
- $\theta = -70° 37'$
- $\phi = 13·62$

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
						$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta \psi$	$\Delta \theta$	$\frac{\Delta \phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
24 00 02	72·0	184·1	60·8	21·3	59·7	+·0011	−·0003	− 0·4	− 1·5	−·0002
01 02	60·1	182·3	60·7	17·8	59·7	+·0006	−·0004	− 8·3	− 1·1	−·0003
07	61·5	183·1		20·2		+·0008	−·0003	− 7·3	− 1·2	−·0002
12	63·8	182·7		21·8		+·0007	−·0003	− 5·8	− 1·1	−·0002
17	64·9	182·1		22·8		+·0006	−·0003	− 5·0	− 1·0	−·0002
22	65·5	181·8		25·0		+·0005	−·0002	− 4·6	− 0·8	−·0001
27	65·9	181·6		25·4		+·0005	−·0002	− 4·3	− 0·8	−·0001
32	66·3	181·7		25·7		+·0005	−·0002	− 4·1	− 0·8	−·0001
37	66·8	181·6		28·4		+·0005	−·0001	− 3·8	− 0·7	·0000
42	67·3	181·2		27·8		+·0004	−·0001	− 3·4	− 0·4	·0000
47	68·2	181·0		30·3		+·0003	·0000	− 2·8	− 0·3	·0000
52	68·7	180·8		31·0		+·0003	·0000	− 2·5	− 0·3	·0000
57	69·1	181·1		30·6		+·0004	·0000	− 2·3	− 0·4	·0000
02 02	69·8	181·5	60·6	31·3	59·6	+·0007	·0000	− 1·8	− 0·8	+·0001
03 02	69·4	181·5	60·6	28·9	59·0	+·0005	−·0001	− 1·8	− 0·7	·0000

1843.
Van Diemen Island.

December 2—3.

VAN DIEMEN ISLAND, 1843. DECEMBER 2, 3, 10, 28.

MEAN MONTHLY READINGS OF THE MAGNETOMETERS.

Mean Göttingen Time.	Declination.	H. F. at 62°·3.	V. F. at 60°·8.	Mean Göttingen Time.	Declination.	H. F. at 62°·3.	V. F. at 60°·8.
Hours.	Sc. Div.	Sc. Div.	Sc. Div.	Hours.	Sc. Div.	Sc. Div.	Sc. Div.
00	73·3	84·1	27·2	12	65·6	79·3	21·1
01	72·5	84·2	25·8	13	68·0	79·0	22·1
02	71·5	84·5	24·2	14	71·7	79·2	23·2
03	72·0	83·9	24·1	15	76·1	80·3	23·7
04	72·2	83·5	24·6	16	79·5	82·4	24·0
05	72·6	83·7	23·5	17	81·1	83·9	24·8
06	72·2	83·7	22·1	18	81·1	84·9	25·9
07	71·8	83·6	21·3	19	80·3	85·2	25·7
08	71·4	83·4	21·6	20	78·5	85·0	26·4
09	69·6	83·3	19·0	21	76·2	85·1	26·3
10	68·3	82·9	18·4	22	74·4	85·1	26·5
11	65·9	81·1	19·7	23	73·6	84·3	26·0

Coefficients (A), Approximate Absolute Values (B).

(A) Declin. $a = 0'·71$

H. F. $k = ·000230$, $q = ·000234$

V. F. $k = ·000036$, $q = ·00021$

(B) Approx. $\psi = -9° 55'$, $X = 4·51$, $Y = 12·86$, $\theta = -70° 37'$, $\phi = 13·62$

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.	
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °
2 01 02	70·0	79·7	64·0	20·2	62·4
02 02	67·5	85·8	64·0	−0·5	62·0
52	—	77·6		12·9	
57	63·5	77·0		13·6	
03 02	62·8	76·9	64·0	15·2	62·0
07	62·2	77·1		15·7	
12	62·9	—		—	
17	63·8	78·3		16·2	
22	65·1	78·3		16·7	
27	65·6	77·8		17·1	
32	65·9	77·5		17·7	
37	66·4	77·2		18·6	
42	66·7	76·6		19·2	
47	67·1	75·2		20·5	
52	67·3	75·8		21·6	
57	67·3	75·7		22·3	
04 02	67·7	76·1	64·1	23·3	62·1
07	68·2	76·2		23·3	
12	68·8	76·0		23·8	
17	69·1	76·2		23·9	
22	69·7	76·2		24·3	
27	70·2	76·6		24·7	
32	70·8	76·9		24·7	
37	71·1	77·2		24·4	
42	71·8	77·5		24·0	
47	72·2	77·7		23·4	
52	72·3	77·8		22·7	
57	72·1	77·7		22·5	
05 02	72·1	—	64·2	—	62·1
3 13 02	69·2	75·2	62·2	24·3	60·2
14 02	75·9	77·7	62·4	20·6	60·6
07	76·2	77·6		21·5	
12	76·7	77·7		20·8	
17	77·2	78·1		20·9	
22	77·9	78·2		19·9	
27	78·3	78·8		19·8	
32	78·9	79·2		19·6	

Differences from the Mean Monthly Values at the corresponding Hours.

$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
−·0006	+·0001	− 1·8	+ 0·8	·0000
−·0006	−·0006	− 2·8	0·0	−·0006
−·0011	−·0002	—	+ 1·0	−·0003
−·0012	−·0001	− 6·0	+ 1·2	−·0002
−·0012	−·0001	− 6·5	+ 1·2	−·0002
−·0012	·0000	− 7·0	+ 1·3	−·0001
—	—	− 6·5	—	
−·0009	·0000	− 5·9	+ 1·0	−·0001
−·0009	·0000	− 5·0	+ 1·0	−·0001
−·0010	·0000	− 4·6	+ 1·1	−·0001
−·0010	·0000	− 4·4	+ 1·1	−·0001
−·0011	+·0001	− 4·1	+ 1·3	·0000
−·0012	+·0001	− 3·8	+ 1·4	·0000
−·0015	+·0001	− 3·6	+ 1·7	−·0001
−·0014	+·0002	− 3·5	+ 1·7	·0000
−·0014	+·0002	− 3·5	+ 1·7	·0000
−·0013	+·0002	− 3·2	+ 1·6	·0000
−·0013	+·0002	− 2·8	+ 1·6	·0000
−·0013	+·0003	− 2·5	+ 1·7	−·0001
−·0013	+·0003	− 2·3	+ 1·7	−·0001
−·0013	+·0003	− 1·9	+ 1·7	−·0001
−·0012	+·0003	− 1·6	+ 1·6	−·0001
−·0011	+·0003	− 1·1	+ 1·5	−·0002
−·0010	+·0003	− 0·9	+ 1·4	−·0002
−·0010	+·0003	− 0·5	+ 1·4	−·0002
−·0009	+·0003	− 0·2	+ 1·3	−·0002
−·0009	+·0002	− 0·1	+ 1·2	−·0001
−·0009	+·0002	− 0·4	+ 1·2	−·0001
—	—	− 0·4	—	—
−·0009	−·0001	+ 0·8	+ 0·9	−·0002
−·0003	−·0001	+ 3·0	+ 0·2	−·0001
−·0004	−·0001	+ 2·9	+ 0·3	−·0001
−·0004	−·0001	+ 3·1	+ 0·3	−·0001
−·0003	−·0001	+ 3·1	+ 0·2	−·0001
−·0003	−·0002	+ 3·3	+ 0·1	−·0002
−·0002	−·0002	+ 3·4	0·0	−·0002
−·0001	−·0002	+ 3·6	− 0·1	·0000

1843.
Van Diemen Island.

December 3, 10, 28.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
3 14 37	79·5	79·4		19·6		·0000	−·0002	+ 3·7	− 0·2	−·0002
42	79·8	79·6		19·0		·0000	−·0002	+ 3·7	− 0·2	−·0002
47	79·9	79·6		19·2		·0000	−·0002	+ 3·5	− 0·2	−·0002
52	80·2	79·8		19·4		·0000	−·0002	+ 3·4	− 0·2	−·0002
57	80·7	79·5		18·6		−·0001	−·0002	+ 3·6	− 0·1	·0000
15 02	81·2	79·5	62·6	20·6	60·8	−·0001	−·0001	+ 3·7	0·0	−·0001
10 04 02	72·8	83·9	62·0	24·3	60·8	·0000	·0000	+ 0·4	0·0	·0000
05 02	86·3	85·9	61·4	27·8	60·4	+·0003	+·0001	+ 9·7	− 0·2	+·0001
07	86·4	88·1		25·0		+·0008	·0000	+ 9·8	− 0·9	+·0001
12	85·4	89·7		19·1		+·0012	−·0002	+ 9·2	− 1·5	−·0001
17	83·0	90·3		11·0		+·0013	−·0005	+ 7·5	− 1·9	−·0003
22	80·1	90·3		7·3		+·0013	−·0007	+ 5·4	− 2·2	−·0005
27	78·2	89·1		5·4		+·0010	−·0007	+ 4·1	− 1·8	−·0005
32	75·8	88·4		3·8		+·0008	−·0008	+ 2·4	− 1·7	−·0006
37	74·6	87·4		4·0		+·0006	−·0008	+ 1·6	− 1·5	−·0007
42	73·5	87·1		4·0		+·0005	−·0008	+ 0·9	− 1·4	−·0007
47	72·4	85·5		7·0		+·0001	−·0007	+ 0·1	− 0·9	−·0006
52	72·9	84·6		9·4		−·0001	−·0006	+ 0·4	− 0·4	−·0005
57	72·4	83·5		10·4		−·0003	−·0005	+ 0·1	− 0·2	−·0005
06 02	72·3	82·7	61·0	13·4	60·2	−·0005	−·0004	+ 0·1	+ 0·1	−·0004
07	73·8	81·7		17·1		−·0008	−·0003	+ 1·1	+ 0·4	−·0004
12	74·7	82·1		19·7		−·0007	−·0002	+ 1·9	+ 0·4	−·0003
17	77·1	83·1		21·1		−·0004	−·0001	+ 3·6	+ 0·3	−·0001
22	77·2	84·4		19·1		−·0001	−·0002	+ 3 6	− 0·1	−·0002
27	77·0	85·9		16·2		+·0002	−·0003	+ 3·6	− 0·4	−·0002
32	77·7	86·8		12·9		+·0004	−·0004	+ 4·1	− 0·9	−·0003
37	77·4	86·7		9·7		+·0004	−·0005	+ 3·8	− 1·0	−·0004
42	76·9	86·1		9·7		+·0003	−·0005	+ 3·6	− 0·9	−·0004
47	76·6	85·1		9·7		·0000	−·0005	+ 3·3	− 0·4	−·0004
52	76·0	84·4		9·6		−·0001	−·0004	+ 2·9	− 0·3	−·0004
57	75·3	83·5		11·3		−·0003	−·0004	+ 2·5	− 0·1	−·0004
07 02	74·8	82·6	61·0	13·0	60·8	−·0005	−·0003	+ 2·1	+ 0·2	−·0003
17	74·5	81·2		19·4		−·0008	−·0001	+ 2·0	+ 0·8	−·0002
22	73·9	80·9		16·8		−·0009	−·0002	+ 1·6	+ 0·8	−·0003
27	73·2	80·8		19·9		−·0009	−·0001	+ 1·1	+ 0·9	−·0002
32	73·1	81·6		18·8		−·0007	−·0002	+ 1·1	+ 0·4	−·0003
37	74·9	80·7		15·7		−·0009	−·0003	+ 2·3	+ 0·7	−·0004
42	73·0	81·2		17·8		−·0008	−·0003	+ 1·1	+ 0·4	−·0004
47	72·1	81·3		18·1		−·0007	−·0003	+ 0·4	+ 0·4	−·0003
52	72·9	81·5		17·0		−·0007	−·0003	+ 1·1	+ 0·4	−·0003
57	71·4	81·3		19·8		−·0007	−·0003	0·0	+ 0·4	−·0003
08 02	71·0	81·1	61·3	17·9	59·8	−·0008	−·0004	− 0·3	+ 0·4	−·0004
09 02	69·7	82·6	61·0	18·9	59·7	−·0004	−·0003	+ 0·1	+ 0·1	−·0003
28 00 02	73·0	82·8	63·5	22·7	62·0	−·0005	+·0001	− 0·2	+ 0·7	·0000
01 02	72·5	84·3	63·2	19·4	61·6	−·0002	−·0001	0·0	+ 0·1	−·0001
57	65·3	81·0		17·1		−·0006	−·0001	− 4·5	+ 0·4	−·0002
02 02	65·2	80·4	63·2	16·4	61·4	−·0007	−·0002	− 4·5	+ 0·4	−·0003
07	63·6	79·6		16·1		−·0009	−·0002	− 5·6	+ 0·8	−·0003
12	61·2	78·5		16·5		−·0012	−·0002	− 7·4	+ 1·1	−·0003
17	59·7	79·1		15·9		−·0010	−·0002	− 8·5	+ 0·9	−·0003
22	58·8	79·8		15·7		−·0009	−·0002	− 9·2	+ 0·8	−·0003
27	58·7	80·7		15·5		−·0006	−·0002	− 9·2	+ 0·4	−·0002
32	59·2	81·3		15·2		−·0005	−·0002	− 9·0	+ 0·3	−·0002
37	60·8	80·6		16·2		−·0006	−·0002	− 7·8	+ 0·4	−·0002
42	62·2	79·9		16·7		−·0008	−·0001	− 6·8	+ 0·8	−·0002
47	62·9	78·9		18·7		−·0010	−·0001	− 6·4	+ 1·0	−·0002
52	63·2	77·9		20·7		−·0012	·0000	− 6·2	+ 1·3	−·0001
57	63·6	—		—		—	—	− 6·0	—	—

1843.
Van Diemen Island.

December 28.

OBSERVATIONS OF THE MAGNETOMETERS. The Declination was observed 2m. before, and the V. F. 1m. after the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta \psi$	$\Delta \theta$	$\frac{\Delta \phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	″	Parts of Total Force.
28 03 02	64·2	77·7	63·0	23·7	61·4	−·0013	+·0001	− 5·5	+ 1·5	·0000
07	65·0	77·6		26·4		−·0013	+·0002	− 5·0	+ 1·6	·0000
12	66·4	78·9		24·9		−·0009	+·0001	− 4·0	+ 1·1	·0000
17	67·1	78·5		25·2		−·0010	+·0001	− 3·6	+ 1·2	·0000
22	67·0	78·5		25·2		−·0010	+·0001	− 3·6	+ 1·2	·0000
27	66·6	78·7		25·2		−·0010	+·0001	− 3·9	+ 1·2	·0000
32	66·9	79·5		25·2		−·0008	+·0001	− 3·7	+ 1·0	·0000
37	67·2	80·8		24·0		−·0005	+·0001	− 3·5	+ 0·7	·0000
42	68·0	82·0		22·8		−·0002	·0000	− 2·9	+ 0·2	·0000
47	68·6	82·5		21·0		·0000	−·0001	− 2·6	− 0·1	−·0001
52	68·8	82·5		19·3		·0000	−·0001	− 2·4	− 0·1	−·0001
57	69·2	82·2		20·3		−·0001	−·0001	− 2·1	0·0	−·0001
04 02	69·2	82·1	63·3	20·2	61·0	−·0001	−·0001	− 2·1	0·0	−·0001
05 02	70·7	82·7	63·0	22·2	60·7	−·0001	−·0001	− 1·3	0·0	−·0001

OBSERVATIONS WITH THE MAGNETOMETERS

ON DAYS OF

UNUSUAL MAGNETIC DISTURBANCE.

1844.

1844. Toronto. January 4.

TORONTO, 1844. JANUARY 4.

MEAN MONTHLY READINGS OF THE MAGNETOMETERS.

Mean Göttingen Time.	Declination.	H. F. at 38°·0.	V. F. at —	Mean Göttingen Time.	Declination.	H. F. at 38°·0.	V. F. at —
Hours.	Sc. Div.	Sc. Div.	Sc. Div.	Hours.	Sc. Div.	Sc. Div.	Sc. Div.
00	127·1	36·8	—	12	126·2	40·0	—
01	127·5	37·2	—	13	127·3	39·6	—
02	128·7	34·5	—	14	127·4	39·7	—
03	128·9	33·0	—	15	127·9	37·6	—
04	127·4	30·7	—	16	129·0	36·4	—
05	125·7	29·2	—	17	127·2	35·7	—
06	123·4	29·7	—	18	127·1	34·3	—
07	122·2	33·2	—	19	126·8	32·2	—
08	122·3	35·8	—	20	126·5	33·4	—
09	123·3	39·0	—	21	127·2	33·9	—
10	124·0	42·0	—	22	127·4	35·4	—
11	125·5	41·3	—	23	126·5	36·0	—

Coefficients (A), Approximate Absolute Values (B.)

(A)
- Declin. $a = 0' \cdot 721$
- H. F. $k = \cdot 000087$, $q = \cdot 00027$
- V. F. $k = —$, $q = —$

(B) Approx.
- $\psi = 1°\,24'$
- $X = 3 \cdot 54$
- $Y = 13 \cdot 44$
- $\theta = 75°\,16'$
- $\phi = 13 \cdot 90$

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
4 15 02	126·8	—	—	—	—	—	—	− 0·8	—	—
16 02	149·0	—	—	—	—	—	—	+14·4	—	—
07	145·0	—		—		—	—	+11·6	—	—
12	141·0	—		—		—	—	+ 8·9	—	—
17	138·4	—		—		—	—	+ 7·1	—	—
22	139·2	—		—		—	—	+ 7·8	—	—
27	136·6	—		—		—	—	+ 6·1	—	—
32	137·0	—		—		—	—	+ 6·4	—	—
37	139·3	—		—		—	—	+ 8·2	—	—
42	136·6	—		—		—	—	+ 6·4	—	—
47	134·7	—		—		—	—	+ 5·1	—	—
52	132·4	—		—		—	—	+ 3·5	—	—
57	132·9	—		—		—	—	+ 4·0	—	—
17 02	133·9	—	—	—	—	—	—	+ 4·8	—	—
07	133·5	—		—		—	—	+ 4·5	—	—
12	132·5	—		—		—	—	+ 3·8	—	—
17	132·1	—		—		—	—	+ 3·5	—	—
22	133·2	—		—		—	—	+ 4·3	—	—
27	134·6	—		—		—	—	+ 5·3	—	—
32	133·6	—		—		—	—	+ 4·6	—	—
37	131·1	—		—		—	—	+ 2·9	—	—
42	128·9	—		—		—	—	+ 1·3	—	—
47	126·3	—		—		—	—	− 0·6	—	—
52	126·7	—		—		—	—	− 0·3	—	—
57	128·8	—		—		—	—	+ 1·2	—	—
18 02	130·9	—	—	—	—	—	—	+ 2·8	—	—
32	130·9	—		—		—	—	+ 2·9	—	—
37	130·7	—		—		—	—	+ 2·8	—	—
42	130·7	—		—		—	—	+ 2·8	—	—
47	130·2	—		—		—	—	+ 2·4	—	—
52	129·2	—		—		—	—	+ 1·7	—	—
57	128·4	—		—		—	—	+ 1·1	—	—
19 02	127·2	—	—	—	—	—	—	+ 0·3	—	—
07	128·4	—		—		—	—	+ 1·1	—	—
12	129·1	—		—		—	—	+ 1·7	—	—
17	130·0	—		—		—	—	+ 2·4	—	—
22	127·9	—		—		—	—	+ 0·8	—	—
27	126·7	—		—		—	—	0·0	—	—
32	125·1	—		—		—	—	− 1·1	—	—

1844.
Toronto.

January 4.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div..	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
4 19 37	123·3	—		—		—	—	− 2·4	—	—
42	123·2	—		—		—	—	− 2·5	—	—
47	123·4	—		—		—	—	− 2·3	—	—
52	123·6	—		—		—	—	− 2·0	—	—
57	124·7	—		—		—	—	− 1·3	—	—
20 02	125·8	—	—	—	—	—	—	− 0·5	—	—

1844.
Van Diemen Island.

January 4, 5, & 22.

VAN DIEMEN ISLAND, 1844. JANUARY 4, 5, 22, 24 and 25.

MEAN MONTHLY READINGS OF THE MAGNETOMETERS.

Mean Göttingen Time.	Declination.	H. F. at 63°·3.	V. F. at 61°·7.	Mean Göttingen Time.	Declination.	H. F. at 63°·3.	V. F. at 61°·7.
Hours.	Sc. Div.	Sc. Div.	Sc. Div.	Hours.	Sc. Div.	Sc. Div.	Sc. Div.
00	74·4	89·2	66·8	12	67·5	84·4	71·5
01	73·4	89·0	66·1	13	69·9	83·8	74·1
02	73·6	89·4	65·5	14	73·5	84·0	76·2
03	73·3	89·2	66·1	15	78·0	84·9	76·9
04	72·9	88·8	66·4	16	81·1	86·1	76·5
05	73·0	88·5	67·7	17	81·6	88·6	73·2
06	73·4	88·4	67·6	18	80·2	89·5	71·2
07	73·4	88·3	68·5	19	79·4	89·6	70·0
08	71·8	88·5	67·7	20	78·2	89·8	68·9
09	69·7	87·7	67·5	21	77·0	89·6	68·2
10	68·0	86·9	68·4	22	75·9	89·4	67·7
11	66·8	85·7	69·3	23	74·6	89·3	66·7

Coefficients (A), Approximate Absolute Values (B).

(A) Declin. $a = 0'\cdot71$; H. F. $k = \cdot000229$, $q = \cdot000230$; V. F. $k = \cdot000036$, $q = \cdot00021$

(B) Approx. $\psi = -9°\ 55'$, $X = 4\cdot51$, $Y = 12\cdot86$, $\theta = -70°\ 37'$, $\phi = 13\cdot62$

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
4 22 02	77·7	85·7	65·3	72·3	63.5	−·0004	+·0006	+ 1·3	+ 1·1	+·0005
23 02	68·2	86·0	65·3	58·3	63·5	−·0003	+·0001	− 4·5	+ 0·4	+·0001
07	68·4	86·0		57·9		−·0003	+·0001	− 4·4	+ 0·4	+·0001
12	67·7	85·7		59·6		−·0004	+·0001	− 4·9	+ 0·6	·0000
17	68·2	85·4		59·9		−·0004	+·0001	− 4·5	+ 0·6	·0000
22	67·7	86·9		58·0		−·0001	+·0001	− 4·8	+ 0·2	+·0001
27	68·1	86·5		58·6		−·0002	+·0001	− 4·5	+ 0·3	+·0001
32	68·1	87·3		58·0		·0000	+·0001	− 4·5	+ 0·1	+·0001
37	68·4	86·8		59·0		−·0001	+·0001	− 4·3	− 0·2	+·0001
42	68·3	—		—		—	—	− 4·4	—	—
5 00 02	70·7	88·4	65·4	60·5	63·5	+·0003	+·0002	− 2·6	− 0·1	+·0002
22 02 02	75·0	88·5	67·4	55·3	66·3	+·0007	+·0006	+ 1·0	− 0·1	+·0006
03 02	68·2	89·4	67·7	45·5	66·5	+·0011	+·0003	− 3·6	− 0·9	+·0004
07	67·4	89·3		44·4		+·0010	+·0003	− 4·2	− 0·8	+·0004
12	66·7	89·3		42·5		+·0011	+·0002	− 4·6	− 1·0	+·0003
17	65·2	88·9		42·4		+·0010	+·0002	− 5·7	− 0·9	+·0003
22	64·5	88·4		43·5		+·0009	+·0002	− 6·2	− 0·8	+·0003
27	65·6	87·6		46·2		+·0007	+·0003	− 5·3	− 0·4	+·0003
32	66·5	87·0		48·8		+·0006	+·0004	− 4·7	− 0·2	+·0004

1844.
Van Diemen. Island.

January 22, 24.

OBSERVATIONS OF THE MAGNETOMETERS. The Declination was observed 2m. before, and the V. F. 1m. after the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
22 03 37	68·0	87·0		51·1		+·0006	+·0005	− 3·6	− 0·1	+·0005
42	68·8	87·1		52·9		+·0006	+·0006	− 3·0	0·0	+·0006
47	70·6	87·5		53·3		+·0007	+·0006	− 1·7	− 0·1	+·0006
52	71·0	86·2		53·3		+·0004	+·0006	− 1·4	+ 0·2	+·0006
57	70·9	85·8		55·8		+·0003	+·0007	− 1·4	+ 0·4	+·0007
04 02	71·5	86·2	67·8	56·1	66·6	+·0004	+·0007	− 1·0	+ 0·3	+·0007
24 10 02	66·3	94·4	60·8	64·0	59·2	+·0012	−·0007	− 1·2	− 2·0	−·0005
07	66·0	94·2		63·5		+·0011	−·0007	− 1·3	− 1·9	−·0005
12	65·5	94·6		64·2		+·0013	−·0007	− 1·6	− 2·2	−·0005
17	66·1	94·5		64·2		+·0013	−·0007	− 1·1	− 2·2	−·0005
22	65·9	94·6		64·2		+·0013	−·0007	− 1·2	− 2·2	−·0005
27	66·1	94·5		64·1		+·0013	−·0007	− 1·0	− 2·2	−·0005
32	65·8	94·3		64·1		+·0013	−·0007	− 1·1	− 2·2	−·0005
37	65·1	94·0		63·7		+·0013	−·0007	− 1·5	− 2·2	−·0005
42	64·9	94·0		64·1		+·0013	−·0007	− 1·6	− 2·2	−·0005
47	65·0	94·0		64·0		+·0013	−·0007	− 1·5	− 2·2	−·0005
52	65·0	94·0		64·0		+·0014	−·0007	− 1·4	− 2·3	−·0005
57	65·1	93·5		64·0		+·0013	−·0007	− 1·3	− 2·2	−·0005
11 02	65·0	93·4	61·2	64·6	59·5	+·0013	−·0006	− 1·3	− 2·0	−·0004
07	65·1	93·0		64·9		+·0012	−·0006	− 1·3	− 1·9	−·0004
12	64·9	92·7		65·2		+·0012	−·0006	− 1·4	− 1·9	−·0004
17	64·7	92·5		65·2		+·0012	−·0006	− 1·9	− 1·9	−·0004
22	64·8	92·6		66·6		+·0012	−·0006	− 1·5	− 1·9	−·0004
27	65·2	91·8		66·9		+·0011	−·0006	− 1·3	− 1·8	−·0004
32	66·0	91·5		68·1		+·0010	−·0005	− 0·8	− 1·6	−·0003
37	66·1	91·4		68·3		+·0011	−·0005	− 0·8	− 1·7	−·0003
42	65·8	91·1		68·7		+·0010	−·0005	− 1·1	− 1·6	−·0003
47	66·3	91·0		68·9		+·0011	−·0005	− 0 7	− 1·7	−·0003
52	66·2	91·1		68·4		+·0011	−·0005	− 0·8	− 1·7	−·0003
57	66·2	91·0		68·7		+·0011	−·0005	− 0·8	− 1·7	−·0003
12 02	67·1	90·7	61·7	71·4	59·8	+·0011	−·0004	− 0·3	− 1·6	−·0002
07	66·8	89·6		70·6		+·0009	−·0004	− 0·6	− 1·4	−·0003
12	67·2	89·5		70·7		+·0009	−·0004	− 0·5	− 1·4	−·0003
17	67·8	88·9		72·0		+·0007	−·0004	− 0·2	− 1·2	−·0003
22	67·8	89·0		73·1		+·0008	−·0003	− 0·4	− 1·2	−·0002
27	67·4	89·3		73·5		+·0009	−·0003	− 0·8	− 1·3	−·0002
32	67·3	89·4		71·9		+·0009	−·0004	− 1·0	− 1·4	−·0003
37	67·8	89·1		71·9		+·0009	−·0004	− 0·8	− 1·4	−·0003
42	67·3	88·5		71·5		+·0007	−·0004	− 1·3	− 1·2	−·0003
47	66·4	87·5		70·7		+·0005	−·0004	− 2·0	− 1·0	−·0003
52	66·7	88·2		71·2		+·0007	−·0004	− 2·0	− 1·2	−·0003
57	67·5	88·1		71·5		+·0007	−·0004	− 1·5	− 1·2	−·0003
13 02	67·5	87·9	62·0	71·6	60·4	+·0006	−·0004	− 1·7	− 1·1	−·0003
07	67·8	87·4		72·7		+·0005	−·0003	− 1·7	− 0·9	−·0002
12	68·1	87·3		72·8		+·0005	−·0003	− 1·7	− 0·9	−·0002
17	68·3	87·0		73·8		+·0005	−·0003	− 1·8	− 0·9	−·0002
22	68·3	86·8		74·3		+·0004	−·0003	− 2·0	− 0·8	−·0002
27	68·5	86·4		75·0		+·0003	−·0002	− 2·0	− 0·5	−·0001
32	68·4	86·3		75·5		+·0003	−·0002	− 2·3	− 0·5	−·0001
37	68·8	86·3		75·3		+·0003	−·0002	− 2·2	− 0·5	−·0001
42	68·9	85·4		75·7		+·0001	−·0002	− 2·4	− 0·3	−·0002
47	69·2	85·0		77·5		·0000	−·0001	− 2·4	− 0·1	−·0001
52	68·6	85·3		76·7		+·0001	−·0002	− 3·0	− 0·3	−·0002
57	69·3	85·5		76·5		+·0001	−·0002	− 2·7	− 0·3	·0002
14 02	69·9	85·0	62·4	77·0	60·8	·0000	−·0002	− 2·5	− 0·2	−·0002
07	70·7	84·8		77·3		·0000	−·0001	− 2·2	− 0·1	−·0001
12	71·0	85·7		76·7		+·0002	−·0002	− 2·3	− 0·4	−·0002
17	71·0	83·8		78·1		−·0003	−·0001	− 2·5	+ 0·2	−·0001
22	72·1	84·1		78·9		−·0002	−·0001	− 2·0	+ 0·1	−·0001
27	72·0	83·5		79·2		−·0004	·0000	− 2·4	+ 0·4	−·0000

1844.
Van Diemen's Island.

January 24.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
						$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta \psi$	$\Delta \theta$	$\frac{\Delta \phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
24 14 32	72·8	85·0		79·2		·0000	·0000	− 2·1	0·0	·0000
37	74·0	84·2		79·3		−·0002	·0000	− 1·5	+ 0·2	·0000
42	74·0	83·7		79·3		−·0003	·0000	− 1·8	+ 0·3	·0000
47	74·6	84·2		80·1		−·0002	·0000	− 1·6	+ 0·2	·0000
52	74·8	84·3		79·7		−·0002	·0000	− 1·8	+ 0·2	·0000
57	74·9	83·3		80·0		−·0004	+·0001	− 1·9	+ 0·5	·0000
15 02	75·0	83·5	63·0	80·4	61·4	−·0004	+·0001	− 2·1	+ 0·5	·0000
07	75·5	83·2		80·0		−·0005	+·0001	− 2·0	+ 0·7	·0000
12	75·9	83·3		80·2		−·0005	+·0001	− 1·8	+ 0·7	·0000
17	76·1	84·3		79·4		−·0003	+·0001	− 1·9	+ 0·4	+·0001
22	76·8	82·7		81·0		−·0006	+·0001	− 1·5	+ 0·8	·0000
27	77·5	82·8		81·3		−·0006	+·0002	− 1·3	+ 0·9	+·0001
32	79·0	84·9		81·1		−·0002	+·0002	− 0·4	+ 0·4	+·0002
37	80·0	85·0		80·1		−·0002	+·0001	+ 0·1	+ 0·3	+·0001
42	81·0	88·3		81·4		+·0006	+·0002	+ 0·6	+ 0·4	+·0002
47	82·8	84·9		81·4		−·0002	+·0002	+ 1·8	+ 0·4	+·0002
52	83·3	85·1		80·5		−·0002	+·0002	+ 1·9	+ 0·4	+·0002
57	83·7	86·0		80·5		·0000	+·0002	+ 2·0	+ 0·2	+·0002
16 02	83·8	83·5	63·4	80·7	62·0	−·0006	+·0002	+ 1·9	+ 0·9	+·0001
07	83·7	82·2		82·4		−·0009	+·0003	+ 1·8	+ 1·3	+·0002
12	85·7	83·4		84·8		−·0007	+·0004	+ 3·2	+ 1·2	+·0003
17	85·2	84·0		82·7		−·0006	+·0003	+ 2·8	+ 1·0	+·0002
22	85·6	84·8		84·0		−·0004	+·0004	+ 3·0	+ 0·9	+·0003
27	86·0	85·1		83·0		−·0004	+·0004	+ 3·3	+ 0·9	+·0003
32	86·4	85·8		82·3		−·0003	+·0004	+ 3·7	+ 0·8	+·0003
37	86·7	87·1		80·2		·0000	+·0003	+ 3·8	+ 0·3	+·0003
42	86·0	85·5		79·9		−·0004	+·0003	+ 3·2	+ 0·8	+·0002
47	86·1	86·4		81·0		−·0002	+·0004	+ 3·2	+ 0·7	+·0003
52	86·6	86·6		81·1		−·0002	+·0004	+ 3·7	+ 0·7	+·0003
57	86·4	86·2		81·6		−·0004	+·0004	+ 3·4	+ 0·9	+·0003
17 02	87·1	86·8	64·0	82·0	62·4	−·0003	+·0005	+ 4·0	+ 0·9	+·0004
07	87·5	86·6		83·7		−·0003	+·0005	+ 4·3	+ 0·9	+·0004
12	88·5	86·6		83·3		−·0004	+·0005	+ 5·1	+ 1·0	+·0004
17	88·2	87·6		85·2		−·0001	+·0006	+ 4·9	+ 0·8	+·0005
22	89·0	87·9		85·5		−·0001	+·0006	+ 5·6	+ 0·8	+·0005
27	89·1	87·5		84·9		−·0002	+·0006	+ 5·8	+ 0·9	+·0005
32	88·7	87·3		83·4		−·0002	+·0006	+ 5·6	+ 0·9	+·0005
37	88·1	87·5		83·1		−·0002	+·0006	+ 5·2	+ 0·9	+·0005
42	87·1	87·2		85·0		−·0003	+·0007	+ 4·6	+ 1·1	+·0006
47	87·3	87·2		84·6		−·0003	+·0007	+ 4·8	+ 1·1	+·0006
52	86·9	87·7		84·1		−·0002	+·0007	+ 4·7	+ 1·0	+·0006
57	85·9	86·9		82·5		−·0004	+·0006	+ 4·0	+ 1·1	+·0005
18 02	84·0	86·8	64·2	82·8	62·7	−·0004	+·0006	+ 2·7	+ 1·1	+·0005
07	83·6	87·0		83·0		−·0004	+·0006	+ 2·5	+ 1·1	+·0005
12	83·8	87·6		82·8		−·0002	+·0007	+ 2·6	+ 1·0	+·0006
17	84·7	88·0		82·3		−·0001	+·0006	+ 3·3	+ 1·8	+·0005
22	85·0	87·7		80·2		−·0002	+·0006	+ 3·7	+ 0·9	+·0005
27	84·7	87·7		81·0		−·0002	+·0006	+ 3·4	+ 0·9	+·0005
32	84·9	88·0		80·5		−·0001	+·0006	+ 3·7	+ 0·8	+·0005
37	85·1	87·8		79·9		−·0001	+·0006	+ 3·9	+ 0·8	+·0005
42	85·1	88·0		79·9		−·0001	+·0006	+ 3·9	+ 0·8	+·0005
47	85·3	87·9		79·9		−·0001	+·0006	+ 4·1	+ 0·8	+·0005
52	85·7	87·8		81·4		−·0001	+·0007	+ 4·4	+ 0·9	+·0006
57	85·8	87·0		82·3		−·0003	+·0008	+ 4·5	+ 1·2	+·0007
19 02	85·6	86·8	64·7	82·3	63·2	−·0003	+·0008	+ 4·4	+ 1·2	+·0007
07	84·7	87·3		82·7		−·0002	+·0008	+ 3·9	+ 1·1	+·0007
12	85·7	88·8		81·9		+·0001	+·0008	+ 4·7	+ 0·8	+·0007
17	85·8	88·8		80·9		+·0001	+·0007	+ 4·8	+ 0·7	+·0006
22	85·7	88·8		79·8		+·0001	+·0007	+ 4·8	+ 0·7	+·0006
27	85·7	89·1		80·0		+·0002	+·0007	+ 4·9	+ 0·5	+·0006
32	86·3	88·3		80·7		·0000	+·0007	+ 5·4	+ 0·8	+·0006
37	86·5	88·2		81·0		·0000	+·0008	+ 5·6	+ 0·9	+·0007

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Van Diemen Island.

January 24—25.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
						$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta \psi$	$\Delta \theta$	$\frac{\Delta \phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
24 19 42	86·2	87·8		81·6		−·0001	+·0008	+ 5·4	+ 1·0	+·0007
47	85·3	86·8		82·8		−·0003	+·0008	+ 4·9	+ 1·2	+·0007
52	85·7	86·8		83·2		−·0004	+·0008	+ 5·2	+ 1·3	+·0007
57	85·5	86·7		83·6		−·0004	+·0009	+ 5·1	+ 1·4	+·0008
20 02	85·3	87·0	64·8	83·2	63·3	−·0003	+·0009	+ 5·1	+ 1·3	+·0008
07	85·2	86·6		82·5		−·0004	+·0008	+ 5·1	+ 1·3	+·0007
12	84·2	86·3		82·5		−·0004	+·0009	+ 4·4	+ 1·4	+·0008
17	84·5	86·7		82·3		−·0004	+·0009	+ 4·7	+ 1·4	+·0008
22	84·6	86·8		82·0		−·0003	+·0009	+ 4·9	+ 1·3	+·0008
27	85·0	86·6		81·4		−·0004	+·0009	+ 5·2	+ 1·4	+·0008
32	84·4	85·4		81·1		−·0006	+·0009	+ 4·9	+ 1·6	+·0007
37	83·8	85·5		80·9		−·0006	+·0009	+ 4·5	+ 1·6	+·0007
42	83·3	86·3		79·7		−·0004	+·0008	+ 4·2	+ 1·3	+·0007
47	82·4	84·9		79·7		−·0007	+·0009	+ 3·7	+ 1·7	+·0007
52	82·8	85·1		81·2		−·0006	+·0009	+ 4·0	+ 1·6	+·0007
57	83·0	85·6		79·0		−·0005	+·0009	+ 4·2	+ 1·5	+·0008
21 02	82·2	85·2	65·1	78·7	64·0	−·0006	+·0009	+ 3·7	+ 1·6	+·0007
07	82·1	84·9		78·8		−·0007	+·0009	+ 3·7	+ 1·7	+·0007
12	81·7	84·8		78·8		−·0007	+·0009	+ 3·4	+ 1·7	+·0007
17	81·8	84·6		78·7		−·0007	+·0009	+ 3·7	+ 1·7	+·0007
22	81·7	84·5		77·7		−·0007	+·0009	+ 3·7	+ 1·7	+·0007
27	81·3	84·6		77·1		−·0007	+·0008	+ 3·4	+ 1·6	+·0006
32	80·8	84·4		76·2		−·0007	+·0008	+ 3·0	+ 1·6	+·0006
37	80·5	84·3		76·2		−·0007	+·0008	+ 2·9	+ 1·6	+·0006
42	80·1	84·4		74·9		−·0007	+·0008	+ 2·7	+ 1·6	+·0006
47	79·4	84·5		73·7		−·0007	+·0008	+ 2·2	+ 1·6	+·0006
52	79·2	84·4		73·5		−·0007	+·0007	+ 2·2	+ 1·5	+·0006
57	78·8	84·2		73·5		−·0007	+·0008	+ 2·0	+ 1·6	+·0006
22 02	78·7	84·3	65·4	73·5	64·3	−·0007	+·0008	+ 2·0	+ 1·6	+·0006
07	78·8	84·3		73·0		−·0007	+·0008	+ 2·1	+ 1·6	+·0006
12	78·6	84·3		73·0		−·0007	+·0008	+ 2·0	+ 1·6	+·0006
17	78·2	83·9		72·6		−·0008	+·0008	+ 1·8	+ 1·7	+·0006
22	78·0	83·4		72·8		−·0009	+·0008	+ 1·8	+ 1·8	+·0006
27	78·0	82·8		73·7		−·0010	+·0008	+ 1·8	+ 1·9	+·0006
32	78·0	82·6		74·5		−·0010	+·0009	+ 1·9	+ 2·0	+·0007
37	77·8	82·4		74·5		−·0011	+·0009	+ 1·9	+ 2·2	+·0007
42	78·0	82·0		74·9		−·0011	+·0009	+ 2·1	+ 2·2	+·0007
47	77·8	81·7		75·2		−·0012	+·0009	+ 2·0	+ 2·3	+·0007
52	77·5	81·6		75·2		−·0012	+·0009	+ 1·9	+ 2·3	+·0007
57	76·9	81·5		74·9		−·0012	+·0009	+ 1·5	+ 2·3	+·0007
23 02	76·8	81·3	65·8	74·1	64·8	−·0013	+·0009	+ 1·5	+ 2·4	+·0007
07	76·8	79·8		75·6		−·0016	+·0010	+ 1·5	+ 2·8	+·0007
12	76·4	79·8		75·6		−·0016	+·0010	+ 1·3	+ 2·8	+·0007
17	75·6	80·1		75·6		−·0015	+·0010	+ 0·7	+ 2·7	+·0007
22	75·4	80·1		74·7		−·0015	+·0010	+ 0·6	+ 2·7	+·0007
27	75·0	80·0		74·3		−·0015	+·0010	+ 0·4	+ 2·7	+·0007
32	75·0	80·0		73·8		−·0015	+·0009	+ 0·4	+ 2·6	+·0006
37	74·8	80·4		73·3		−·0014	+·0009	+ 0·2	+ 2·5	+·0006
42	74·6	80·8		72·6		−·0013	+·0009	+ 0·1	+ 2·4	+·0007
47	74·2	80·6		71·5		−·0014	+·0009	− 0·2	+ 2·5	+·0006
52	74·4	80·6		71·5		−·0014	+·0009	0·0	+ 2·5	+·0006
57	74·2	80·5		71·1		−·0014	+·0008	− 0·1	+ 2·4	+·0006
25 00 02	74·6	80·3	66·0	70·9	65·0	−·0014	+·0008	+ 0·1	+ 2·4	+·0006
07	74·2	80·6		69·8		−·0014	+·0008	− 0·1	+ 2·4	+·0006
12	74·2	80·9		69·0		−·0013	+·0008	0·0	+ 2·3	+·0006
17	74·1	81·1		69·4		−·0012	+·0008	− 0·1	+ 2·2	+·0006
22	74·2	81·1		68·8		−·0012	+·0008	+ 0·1	+ 2·2	+·0006
27	74·0	80·7		68·9		−·0013	+·0008	0·0	+ 2·3	+·0006
32	73·9	80·2		68·0		−·0014	+·0008	0·0	+ 2·4	+·0006
37	73·7	80·2		68·0		−·0014	+·0008	− 0·1	+ 2·4	+·0006
42	74·0	80·2		70·0		−·0014	+·0008	+ 0·2	+ 2·4	+·0006
47	73·6	80·1		69·6		−·0014	+·0008	− 0·1	+ 2·4	+·0006

1844.
Van Diemen Island.

January 25.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
						$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
25 00 52	72·2	80·3		68·4		−·0013	+·0008	− 1·0	+ 2·3	+·0006
57	71·6	80·1		66·6		−·0014	+.0007	− 1·3	+ 2·3	+·0005
01 02	71·2	79·8	66·2	66·9	65·0	−·0015	+·0007	− 1·5	+ 2·4	+·0005
07	71·6	80·7		67·8		−·0012	+·0008	− 1·3	+ 2·2	+·0006
12	72·3	81·0		67·2		−·0012	+·0007	− 0·8	+ 2·0	+·0005
17	72·2	80·0		66·3		−·0014	+·0007	− 0·8	+ 2·3	+·0005
22	71·7	79·7		68·5		−·0015	+·0008	− 1·3	+ 2·5	+·0005
27	72·0	79·5		69·0		−·0016	+·0008	− 1·1	+ 2·6	+·0005
32	72·4	79·7		67·8		−·0015	+·0008	− 0·8	+ 2·4	+·0005
37	72·8	80·0		68·2		−·0014	+·0008	− 0·5	+ 2·4	+·0006
42	72·7	80·0		69·0		−·0015	+·0008	− 0·6	+ 2·5	+·0005
47	71·5	80·6		66·4		−·0013	+·0007	− 1·4	+ 2·2	+·0005
52	71·0	80·8		66·1		−·0013	+·0007	− 1·8	+ 2·2	+·0005
57	70·7	81·3		65·6		−·0012	+·0007	− 2·0	+ 2·0	+·0005
02 02	71·2	81·3	66·3	65·6	65·0	−·0012	+·0007	− 1·7	+ 2·0	+·0005
07	71·8	81·6		64·5		−·0011	+·0007	− 1·3	+ 1·9	+·0005
12	71·3	81·6		64·5		−·0011	+·0007	− 1·5	+ 1·9	+·0005
17	70·7	81·7		62·5		−·0011	+·0006	− 2·0	+ 1·8	+·0004
22	70·5	81·8		62·4		−·0010	+·0006	− 2·1	+ 1·7	+·0004
27	70·4	82·0		62·4		−·0010	+·0006	− 2·2	+ 1·7	+·0004
32	70·5	82·4		61·9		−·0009	+·0006	− 2·0	+ 1·6	+·0004
37	70·8	82·5		61·8		−·0009	+·0005	− 1·8	+ 1·5	+·0004
42	70·9	82·7		61·8		−·0009	+·0005	− 1·8	+ 1·5	+·0004
47	71·0	83·3		61·5		−·0007	+·0005	− 1·7	+ 1·3	+·0004
52	71·2	83·5		60·7		−·0006	+·0005	− 1·5	+ 1·2	+·0004
57	71·3	84·1		60·3		−·0005	+·0005	− 1·4	+ 1·1	+·0004
03 02	71·2	85·1	66·2	58·4	65·0	−·0003	+·0004	− 1·5	+ 0·8	+·0003
07	70·9	84·9		57·8		−·0003	+·0004	− 1·7	+ 0·8	+·0003
12	70·3	84·5		57·8		−·0004	+·0004	− 2·0	+ 0·9	+·0003
17	70·1	84·3		58·0		−·0004	+·0004	− 2·2	+ 0·9	+·0003
22	70·3	84·2		58·4		−·0005	+·0004	− 2·0	+ 1·0	+·0003
27	69·8	84·6		58·3		−·0004	+·0004	− 2·3	+ 0·9	+·0003
32	69·7	84·4		58·3		−·0004	+·0004	− 2·4	+ 0·9	+·0003
37	69·5	84·7		59·6		−·0003	+·0005	− 2·5	+ 0·9	+·0004
42	70·2	84·8		59·9		−·0003	+·0005	− 2·0	+ 0·9	+·0004
47	70·5	84·8		59·9		−·0003	+·0005	− 1·8	+ 0·9	+·0004
52	70·8	84·8		60·0		−·0003	+·0005	− 1·5	+ 0·9	+·0004
57	69·3	83·8		60·0		−·0005	+·0005	− 2·5	+ 1·1	+·0004
04 02	69·3	84·8	66·2	61·6	65·0	−·0003	+·0005	− 2·5	+ 0·9	+·0004
07	70·0	84·6		61·1		−·0003	+·0005	− 2·0	+ 0·9	+·0004
12	70·2	84·7		61·7		−·0003	+·0005	− 1·9	+ 0·9	+·0004
17	70·8	85·0		61·7		−·0002	+·0005	− 1·5	+ 0·8	+·0004
22	70·7	84·7		62·5		−·0003	+·0005	− 1·5	+ 0·9	+·0004
27	70·6	84·8		62·0		−·0003	+·0005	− 1·6	+ 0·9	+·0004
32	71·0	85·0		62·7		−·0002	+·0005	− 1·3	+ 0·8	+·0004
37	71·4	85·0		62·6		−·0002	+·0005	− 1·1	+ 0·8	+·0004
42	71·2	84·8		64·0		−·0002	+·0006	− 1·3	+ 0·9	+·0005
47	71·6	85·3		64·1		−·0001	+·0006	− 1·0	+ 0·8	+·0005
52	72·4	85·2		62·9		−·0001	+·0005	− 0·4	+ 0·7	+·0004
57	72·0	84·7		64·6		−·0003	+·0006	− 0·7	+ 1·0	+·0005
05 02	72·1	85·0	66·0	62·8	65·0	−·0002	+·0005	− 0·6	+ 0·8	+·0004
07	72·2	85·2		62·7		−·0001	+·0005	− 0·6	+ 0·7	+·0004
12	72·2	85·2		63·9		−·0001	+·0006	− 0·6	+ 0·8	+·0005
17	72·3	85·3		63·3		−·0001	+·0005	− 0·6	+ 0·7	+·0004
22	72·0	85·2		62·8		−·0001	+·0005	− 0·8	+ 0·7	+·0004
27	71·8	85·1		63·0		−·0002	+·0005	− 1·0	+ 0·8	+·0004
32	71·4	84·8		62·9		−·0002	+·0005	− 1·3	+ 0·8	+·0004
37	71·4	84·8		64·0		−·0002	+·0006	− 1·3	+ 0·9	+·0005
42	71·8	84·6		63·7		−·0003	+·0006	− 1·1	+ 1·0	+·0005
47	71·9	84·8		64·7		−·0002	+·0006	− 1·0	+ 0·9	+·0005
52	71·8	84·7		64·6		−·0002	+·0006	− 1·1	+ 0·9	+·0005
57	71·8	84·6		64·4		−·0003	+·0006	− 1·1	+ 1·0	+·0005

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Van Diemen Island.

January 25.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
25 06 02	71·9	84·8	66·0	63·5	65·0	−·0002	+·0005	− 1·1	+ 0·8	+·0004
07	72·0	84·8		64·6		−·0002	+·0006	− 1·0	+ 0·9	+·0005
12	72·0	84·8		64·6		−·0002	+·0006	− 1·0	+ 0·9	+·0005
17	72·1	85·0		63·8		−·0002	+·0005	− 0·9	+ 0·8	+·0004
22	72·0	85·0		63·4		−·0002	+·0005	− 1·0	+ 0·8	+·0004
27	72·0	85·0		63·4		−·0002	+·0005	− 1·0	+ 0·8	+·0004
32	71·8	85·0		63·0		−·0002	+·0005	− 1·1	+ 0·8	+·0004
37	71·7	85·0		63·0		−·0001	+·0005	− 1·2	+ 0·7	+·0004
42	71·6	85·1		63·0		−·0001	+·0005	− 1·3	+ 0·7	+·0004
47	71·6	85·1		63·1		−·0001	+·0005	− 1·3	+ 0·7	+·0004
52	71·7	85·1		62·9		−·0001	+·0005	− 1·2	+ 0·7	+·0004
57	71·7	85·1		62·9		−·0001	+·0005	− 1·2	+ 0·7	+·0004
07 02	71·6	85·1	66·0	63·2	64·8	−·0001	+·0005	− 1·3	+ 0·7	+·0004
07	71·4	85·2		63·2		−·0001	+·0005	− 1·3	+ 0·7	+·0004
12	71·6	85·3		63·4		−·0001	+·0005	− 1·1	+ 0·7	+·0004
17	71·7	85·4		62·9		−·0001	+·0004	− 0·9	+ 0·5	+·0003
22	71·6	85·6		62·9		−·0001	+·0004	− 0·9	+ 0·5	+·0003
27	71·5	85·9		61·7		−·0001	+·0004	− 0·8	+ 0·5	+·0003
32	70·9	85·8		61·3		−·0002	+·0004	− 1·2	+ 0·7	+·0003
37	70·8	86·0		61·3		−·0001	+·0004	− 1·2	+ 0·5	+·0003
42	70·8	86·0		61·3		−·0002	+·0004	− 1·1	+ 0·7	+·0003
47	70·2	85·8		61·3		−·0003	+·0004	− 1·4	+ 0·8	+·0003
52	70·2	86·3		62·2		−·0002	+·0004	− 1·3	+ 0·7	+·0003
57	70·7	86·7		60·6		−·0001	+·0003	− 0·8	+ 0·4	+·0003
08 02	69·9	86·8	64·4	59·1	64·4	−·0001	+·0003	− 1·3	+ 0·4	+·0003
07	69·6	86·9		58·5		−·0001	+·0002	− 1·4	+ 0·3	+·0002
12	69·0	87·2		58·4		·0000	+·0002	− 1·7	+ 0·2	+·0002
17	68·9	86·8		56·6		·0000	+·0002	− 1·7	+ 0·2	+·0002
22	68·3	86·8		58·1		·0000	+·0002	− 2·0	+ 0·2	+·0002
27	68·5	86·8		58·1		+·0001	+·0002	− 1·7	+ 0·1	+·0002
32	68·3	86·7		58·4		+·0001	+·0002	− 1·7	+ 0·1	+·0002
37	68·2	86·5		57·9		+·0001	+·0002	− 1·7	+ 0·1	+·0002
42	68·2	86·5		59·0		+·0001	+·0002	− 1·5	+ 0·1	+·0002
47	67·9	86·4		59·0		+·0001	+·0002	− 1·6	+ 0·1	+·0002
52	67·8	86·3		59·0		+·0001	+·0002	− 1·5	+ 0·1	+·0002
57	67·6	86·1		58·1		+·0001	+·0002	− 1·6	+ 0·1	+·0002
09 02	67·4	85·9	65·6	58·9	64·2	+·0001	+·0002	− 1·6	+ 0·1	+·0002
07	67·2	85·9		61·2		+·0001	+·0003	− 1·7	+ 0·2	+·0003
12	67·2	85·8		61·8		+·0001	+·0003	− 1·5	+ 0·2	+·0003
17	67·0	85·8		62·1		+·0001	+·0003	− 1·6	+ 0·2	+·0003
22	67·1	85·6		62·3		+·0001	+·0003	− 1·4	+ 0·2	+·0003
27	67·0	85·6		61·4		+·0001	+·0003	− 1·4	+ 0·2	+·0003
32	66·6	85·6		60·7		+·0001	+·0002	− 1·6	+ 0·1	+·0002
37	66·8	85·5		60·8		+·0001	+·0002	− 1·3	+ 0·1	+·0002
42	66·5	85·5		61·5		+·0001	+·0002	− 1·5	+ 0·1	+·0002
47	66·1	85·5		61·2		+·0001	+·0002	− 1·6	+ 0·1	+·0002
52	66·2	85·3		61·7		+·0001	+·0002	− 1·5	+ 0·1	+·0002
57	65·8	85·5		59·7		+·0001	+·0001	− 1·6	0·0	+·0001

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For Mean Monthly Readings, *see* page 288.

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24 10 02	125·6	40·8	41·6	—	—	+·0009	—	+ 1·1	—	—
07	125·3	41·9		—		+·0010	—	+ 0·8	—	—
12	125·9	44·4		—		+·0012	—	+ 1·1	—	—
17	126·0	41·3		—		+·0009	—	+ 1·1	—	—
22	125·4	40·8		—		+·0009	—	+ 0·6	—	—
27	125·6	40·7		—		+·0009	—	+ 0·7	—	—
32	125·6	41·4		—		+·0010	—	+ 0·6	—	—
37	125·8	41·6		—		+·0010	—	+ 0·6	—	—
42	125·9	41·8		—		+·0010	—	+ 0·6	—	—
47	125·8	41·3		—		+·0010	—	+ 0·5	—	—

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OBSERVATIONS OF THE MAGNETOMETERS. The Declination was observed 2m. before the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm.	Sc. Div.	Therm.	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
24 10 52	125·8	41·1		—		+·0010	—	+ 0·4	—	—
57	126·0	41·0		—		+·0009	—	+ 0·4	—	—
11 02	126·5	40·7	41·6	—	—	+·0009	—	+ 0·7	—	—
07	126·6	40·4		—		+·0009	—	+ 0·7	—	—
12	126·8	40·0		—		+·0009	—	+ 0·8	—	—
17	126·9	40·6		—		+·0010	—	+ 0·8	—	—
22	127·2	41·7		—		+·0011	—	+ 1·1	—	—
27	127·8	40·9		—		+·0010	—	+ 1·4	—	—
32	127·3	39·3		—		+·0009	—	+ 1·1	—	—
37	127·1	38·3		—		+·0008	—	+ 0·8	—	—
42	126·8	38·8		—		+·0009	—	+ 0·6	—	—
47	127·2	39·9		—		+·0010	—	+ 0·8	—	—
52	127·4	39·7		—		+·0010	—	+ 0·9	—	—
57	127·8	39·1		—		+·0010	—	+ 1·2	—	—
12 02	128·0	39·3	42·0	—	—	+·0010	—	+ 1·3	—	—
07	128·0	38·0		—		+·0009	—	+ 1·2	—	—
12	128·1	39·1		—		+·0010	—	+ 1·2	—	—
17	128·2	38·4		—		+·0009	—	+ 1·2	—	—
22	127·0	37·2		—		+·0008	—	+ 0·3	—	—
27	126·7	37·5		—		+·0009	—	0·0	—	—
32	126·9	39·7		—		+·0011	—	+ 0·1	—	—
37	128·2	40·4		—		+·0011	—	+ 1·0	—	—
42	128·3	41·8		—		+·0013	—	+ 1·0	—	—
47	129·1	44·6		—		+·0015	—	+ 1·5	—	—
52	129·4	44·8		—		+·0015	—	+ 1·6	—	—
57	128·7	42·9		—		+·0013	—	+ 1·1	—	—
13 02	127·8	43·0	41·9	—	—	+·0014	—	+ 0·4	—	—
07	128·0	42·0		—		+·0013	—	+ 0·5	—	—
12	127·9	41·2		—		+·0012	—	+ 0·4	—	—
17	127·5	40·9		—		+·0012	—	+ 0·1	—	—
22	127·0	40·0		—		+·0011	—	− 0·2	—	—
27	127·1	39·8		—		+·0011	—	− 0·1	—	—
32	127·2	39·5		—		+·0010	—	− 0·1	—	—
37	127·1	39·8		—		+·0010	—	− 0·2	—	—
42	127·1	39·9		—		+·0011	—	− 0·2	—	—
47	127·1	39·0		—		+·0010	—	− 0·2	—	—
52	126·7	37·9		—		+·0009	—	− 0·5	—	—
57	126·9	39·6		—		+·0010	—	− 0·4	—	—
14 02	127·1	38·9	41·8	—	—	+·0010	—	− 0·2	—	—
07	127·2	38·9		—		+·0010	—	− 0·1	—	—
12	126·9	39·2		—		+·0010	—	− 0·4	—	—
17	126·9	39·8		—		+·0011	—	− 0·4	—	—
22	127·6	35·0		—		+·0007	—	0·0	—	—
27	127·0	36·5		—		+·0008	—	− 0·4	—	—
32	128·0	33·4		—		+·0006	—	+ 0·3	—	—
37	126·1	33·7		—		+·0006	—	− 1·1	—	—
42	124·5	31·7		—		+·0004	—	− 2·3	—	—
47	125·1	29·7		—		+·0003	—	− 1·9	—	—
52	126·5	28·9		—		+·0002	—	− 0·9	—	—
57	126·5	28·0		—		+·0001	—	− 1·0	—	—
15 02	126·2	27·8	41·6	—	—	+·0001	—	− 1·2	—	—
07	125·8	26·3		—		·0000	—	− 1·5	—	—
12	126·0	26·1		—		·0000	—	− 1·5	—	—
17	126·7	24·6		—		−·0002	—	− 1·1	—	—
22	127·0	24·7		—		−·0001	—	− 0·9	—	—
27	127·4	22·3		—		−·0003	—	− 0·7	—	—
32	127·4	17·5		—		−·0008	—	− 0·7	—	—
37	128·2	16·9		—		−·0008	—	− 0·2	—	—
42	130·0	15·1		—		−·0010	—	+ 1·0	—	—
47	139·9	14·1		—		−·0010	—	+ 0·8	—	—
52	131·8	13·5		—		−·0011	—	+ 2·2	—	—
57	133·1	12·9		—		−·0011	—	+ 3·0	—	—

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OBSERVATIONS OF THE MAGNETOMETERS. The Declination was observed 2m. before the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta \psi$	$\Delta \theta$	$\frac{\Delta \phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
24 16 02	134·7	16·2	41·4	—	—	−·0008	—	+ 4·1	—	—
07	137·4	17·9		—		−·0007	—	+ 6·2	—	—
12	138·0	24·3		—		−·0002	—	+ 6·7	—	—
17	135·3	26·8		—		·0000	—	+ 4·9	—	—
22	132·0	29·0		—		+·0002	—	+ 2·6	—	—
27	128·1	24·7		—		−·0002	—	− 0·1	—	—
32	126·0	22·4		—		−·0005	—	− 1·5	—	—
37	126·9	17·8		—		−·0009	—	− 0·7	—	—
42	127·1	12·8		—		−·0014	—	− 0·5	—	—
47	126·6	8·0		—		−·0018	—	− 0·7	—	—
52	130·8	8·5		—		−·0018	—	+ 2·4	—	—
57	131·0	5·3		—		−·0021	—	+ 2·7	—	—
17 02	131·0	6·5	40·0	—	—	−·0020	—	+ 2·8	—	—
07	135·0	13·9		—		−·0014	—	+ 5·6	—	—
12	139·8	34·0		—		+·0004	—	+ 9·1	—	—
17	140·2	42·9		—		+·0011	—	+ 9·4	—	—
22	132·2	33·5		—		+·0003	—	+ 3·6	—	—
27	130·5	23·3		—		−·0006	—	+ 2·4	—	—
32	131·3	19·5		—		−·0010	—	+ 3·0	—	—
37	131·0	20·5		—		−·0009	—	+ 2·8	—	—
42	129·2	15·4		—		−·0014	—	+ 1·5	—	—
47	126·0	6·8		—		−·0021	—	− 0·8	—	—
52	128·8	3·1		—		−·0025	—	+ 1·2	—	—
57	136·0	7·9		—		−·0021	—	+ 6·4	—	—
18 02	138·1	10·0	38·8	—	—	−·0019	—	+ 7·9	—	—
07	136·0	10·3		—		−·0019	—	+ 6·4	—	—
12	135·0	5·6		—		−·0023	—	+ 5·8	—	—
17	130·0	11·0		—		−·0018	—	+ 9·4	—	—
22	139·0	15·1		—		−·0015	—	+ 8·7	—	—
27	136·9	17·0		—		−·0013	—	+ 7·1	—	—
32	135·0	13·4		—		−·0016	—	+ 5·9	—	—
37	137·4	13·9		—		−·0016	—	+ 7·6	—	—
42	139·7	15·1		—		−·0015	—	+ 9·3	—	—
47	139·1	15·8		—		−·0014	—	+ 8·8	—	—
52	136·7	12·5		—		−·0017	—	+ 7·1	—	—
57	136·0	13·0		—		−·0017	—	+ 6·6	—	—
19 02	135·6	12·6	38·0	—	—	−·0017	—	+ 6·4	—	—
07	133·9	15·0		—		−·0015	—	+ 5·1	—	—
12	129·3	15·0		—		−·0016	—	+ 1·8	—	—
17	126·8	14·3		—		−·0016	—	+ 0·1	—	—
22	127·4	14·4		—		−·0017	—	+ 0·5	—	—
27	130·2	15·2		—		−·0016	—	+ 2·6	—	—
32	132·2	17·4		—		−·0014	—	+ 4·0	—	—
37	131·2	17·5		—		−·0015	—	+ 3·3	—	—
42	131·1	18·7		—		−·0014	—	+ 3·3	—	—
47	131·3	19·6		—		−·0013	—	+ 3·4	—	—
52	132·3	19·5		—		−·0014	—	+ 4·2	—	—
57	131·6	18·6		—		−·0015	—	+ 3·7	—	—
20 02	129·5	18·3	37·3	—	—	−·0015	—	+ 2·2	—	—
07	128·5	17·4		—		−·0016	—	+ 1·3	—	—
12	128·8	17·8		—		−·0016	—	+ 1·5	—	—
17	130·9	13·8		—		−·0019	—	+ 3·0	—	—
22	132·1	14·3		—		−·0019	—	+ 3·9	—	—
27	134·2	13·9		—		−·0020	—	+ 5·3	—	—
32	133·5	11·7		—		−·0022	—	+ 4·8	—	—
37	132·8	11·7		—		−·0022	—	+ 4·2	—	—
42	132·2	10·0		—		−·0024	—	+ 3·7	—	—
47	133·1	8·5		—		−·0025	—	+ 4·4	—	—
52	134·1	12·3		—		−·0022	—	+ 5·0	—	—
57	134·1	13·1		—		−·0022	—	+ 5·0	—	—
21 02	134·2	17·9	36·6	—	—	−·0018	—	+ 5·0	—	—
07	133·6	18·4		—		−·0017	—	+ 4·6	—	—

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The Declination was observed 2m. before the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
						$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta \psi$	$\Delta \theta$	$\frac{\Delta \phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
24 21 12	133·2	20·3		—		—·0016	—	+ 4·3	—	—
17	133·2	20·9		—		—·0016	—	+ 4·3	—	—
22	132·8	22·9		—		—·0014	—	+ 4·0	—	—
27	132·4	19·3		—		—·0017	—	+ 3·7	—	—
32	131·5	22·8		—		—·0015	—	+ 3·0	—	—
37	131·6	23·8		—		—·0014	—	+ 3·1	—	—
42	132·0	25·0		—		—·0013	—	+ 3·4	—	—
47	132·2	27·5		—		—·0011	—	+ 3·5	—	—
52	132·5	30·6		—		—·0009	—	+ 3·7	—	—
57	132·0	32·6		—		—·0007	—	+ 3·3	—	—
22 02	131·3	35·3	36·2	—	—	—·0005	—	+ 2·8	—	—
07	130·3	35·9		—		—·0005	—	+ 2·2	—	—
12	128·4	35·5		—		—·0005	—	+ 0·8	—	—
17	129·2	37·9		—		—·0004	—	+ 1·4	—	—
22	130·2	38·6		—		—·0003	—	+ 2·3	—	—
27	129·9	40·0		—		—·0002	—	+ 2·0	—	—
32	129·1	39·8		—		—·0003	—	+ 1·5	—	—
37	127·9	40·2		—		—·0003	—	+ 0·7	—	—
42	126·3	39·6		—		—·0004	—	− 0·4	—	—
47	126·0	39·4		—		—·0004	—	− 0·5	—	—
52	127·2	38·4		—		—·0005	—	+ 0·4	—	—
57	128·6	38·4		—		—·0006	—	+ 1·4	—	—
23 02	130·1	40·3	35·0	—	—	—·0004	—	+ 2·6	—	—
07	130·9	41·5		—		—·0004	—	+ 3·1	—	—
12	131·8	40·4		—		—·0005	—	+ 3·7	—	—
17	132·5	38·6		—		—·0006	—	+ 4·2	—	—
22	133·1	38·5		—		—·0007	—	+ 4·6	—	—
27	133·0	38·6		—		—·0007	—	+ 4·4	—	—
32	132·9	34·4		—		—·0011	—	+ 4·4	—	—
37	133·0	33·0		—		—·0012	—	+ 4·4	—	—
42	132·4	33·3		—		—·0012	—	+ 4·0	—	—
47	131·4	35·4		—		—·0010	—	+ 3·2	—	—
52	130·2	35·9		—		—·0010	—	+ 2·3	—	—
57	129·1	37·6		—		—·0009	—	+ 1·4	—	—
25 00 02	128·2	37·5	34·5	—	—	—·0009	—	+ 0·8	—	—
07	127·9	37·9		—		—·0009	—	+ 0·6	—	—
12	127·0	36·8		—		—·0010	—	− 0·1	—	—
17	127·4	38·3		—		—·0009	—	+ 0·1	—	—
22	128·0	38·9		—		—·0008	—	+ 0·6	—	—
27	128·7	39·0		—		—·0008	—	+ 1·0	—	—
32	129·0	40·6		—		—·0007	—	+ 1·2	—	—
37	129·2	40·3		—		—·0007	—	+ 1·3	—	—
42	129·0	39·8		—		—·0008	—	+ 1·1	—	—
47	127·9	38·8		—		—·0009	—	+ 0·4	—	—
52	126·6	38·8		—		—·0009	—	− 0·6	—	—
57	126·0	39·6		—		—·0009	—	− 0·1	—	—
01 02	124·9	41·1	34·0	—	—	—·0007	—	− 1·8	—	—
07	124·5	41·6		—		—·0007	—	− 2·3	—	—
12	124·2	42·8		—		—·0006	—	− 2·6	—	—
17	124·0	46·1		—		—·0003	—	− 2·8	—	—
22	124·6	46·1		—		—·0003	—	− 2·4	—	—
27	125·0	44·5		—		—·0005	—	− 2·2	—	—
32	125·1	46·0		—		—·0004	—	− 2·2	—	—
37	124·7	45·8		—		—·0004	—	− 2·6	—	—
42	124·5	46·5		—		—·0003	—	− 2·8	—	—
47	125·1	44·7		—		—·0005	—	− 2·4	—	—
52	125·7	44·7		—		—·0005	—	− 2·0	—	—
57	125·2	45·9		—		—·0004	—	− 2·5	—	—
02 02	125·2	45·0	32·8	—	—	—·0005	—	− 2·6	—	—
07	124·9	46·0		—		—·0004	—	− 2·8	—	—
12	124·1	44·8		—		—·0005	—	− 3·3	—	—
17	123·7	44·1		—		—·0006	—	− 3·6	—	—

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OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours. $\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
25 02 22	123·0	44·5		—		—·0006	—	− 4·2	—	—
27	122·2	44·8		—		—·0005	—	− 4·7	—	—
32	122·0	45·9		—		—·0005	—	− 4·9	—	—
37	121·6	45·2		—		—·0005	—	− 5·1	—	—
42	121·7	42·8		—		—·0007	—	− 5·1	—	—
47	121·3	42·9		—		—·0007	—	− 5·4	—	—
52	121·0	42·2		—		—·0008	—	− 5·6	—	—
57	121·7	43·0		—		—·0007	—	− 5·1	—	—
03 02	121·3	40·4	32·0	—	—	—·0010	—	− 5·4	—	—
07	122·5	42·9		—		—·0008	—	− 4·5	—	—
12	122·0	41·0		—		—·0009	—	− 4·7	—	—
17	121·3	45·0		—		—·0006	—	− 5·1	—	—
22	119·9	43·6		—		—·0007	—	− 6·2	—	—
27	119·4	44·8		—		—·0006	—	− 6·4	—	—
32	118·6	46·9		—		—·0004	—	− 6·9	—	—
37	118·0	47·0		—		—·0004	—	− 7·2	—	—
42	119·6	46·6		—		—·0004	—	− 6·0	—	—
47	120·3	46·1		—		—·0004	—	− 5·4	—	—
52	120·4	46·1		—		—·0004	—	− 5·1	—	—
57	118·8	49·1		—		—·0001	—	− 6·3	—	—
04 02	119·5	44·8	31·6	—	—	—·0005	—	− 5·6	—	—
07	119·9	44·7		—		—·0005	—	− 5·3	—	—
12	120·8	43·0		—		—·0006	—	− 4·5	—	—
17	122·0	41·1		—		—·0008	—	− 3·6	—	—
22	122·9	41·4		—		—·0007	—	− 2·8	—	—
27	122·7	40·4		—		—·0008	—	− 2·9	—	—
32	123·1	39·6		—		—·0008	—	− 2·6	—	—
37	123·4	38·8		—		—·0009	—	− 2·2	—	—
42	123·4	39·0		—		—·0008	—	− 2·0	—	—
47	123·4	36·6		—		—·0010	—	− 1·9	—	—
52	124·5	35·9		—		—·0011	—	− 1·1	—	—
57	124·7	36·9		—		—·0010	—	− 0·8	—	—
05 02	124·0	35·6	32·0	—	—	—·0011	—	− 1·2	—	—
07	124·7	34·5		—		—·0012	—	− 0·6	—	—
12	124·3	33·7		—		—·0012	—	− 0·7	—	—
17	124·8	34·9		—		—·0011	—	− 0·2	—	—
22	124·7	35·0		—		—·0011	—	− 0·1	—	—
27	124·2	34·8		—		—·0011	—	− 0·4	—	—
32	124·0	35·5		—		—·0010	—	− 0·4	—	—
37	123·0	33·1		—		—·0012	—	− 1·0	—	—
42	123·4	33·0		—		—·0012	—	− 0·6	—	—
47	123·5	32·0		—		—·0013	—	− 0·4	—	—
52	124·0	32·4		—		—·0013	—	+ 0·1	—	—
57	123·9	33·0		—		—·0012	—	+ 0·2	—	—
06 02	123·8	32·6	32·5	—	—	—·0012	—	+ 0·3	—	—
07	123·7	33·0		—		—·0012	—	+ 0·3	—	—
12	123·6	33·0		—		—·0013	—	+ 0·3	—	—
17	123·7	34·0		—		—·0012	—	+ 0·4	—	—
22	123·1	33·8		—		—·0012	—	+ 0·1	—	—
27	123·0	33·8		—		—·0013	—	+ 0·1	—	—
32	123·0	33·1		—		—·0013	—	+ 0·1	—	—
37	123·0	34·2		—		—·0013	—	+ 0·2	—	—
42	123·0	34·7		—		—·0013	—	+ 0·3	—	—
47	122·3	34·9		—		—·0013	—	− 0·1	—	—
52	122·8	35·0		—		—·0013	—	+ 0·3	—	—
57	123·0	35·8		—		—·0012	—	+ 0·5	—	—
07 02	123·0	36·3	32·5	—	—	—·0012	—	+ 0·6	—	—
07	123·0	36·4		—		—·0012	—	+ 0·6	—	—
12	123·0	35·7		—		—·0013	—	+ 0·6	—	—
17	123·2	37·7		—		—·0012	—	+ 0·7	—	—
22	123·3	38·1		—		—·0012	—	+ 0·8	—	—
27	123·9	40·9		—		—·0009	—	+ 1·2	—	—

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
25 07 32	123·7	39·1		—		−·0011	—	+ 1·1	—	—
37	122·8	37·7		—		−·0013	—	+ 0·4	—	—
42	123·0	37·2		—		−·0013	—	+ 0·5	—	—
47	123·1	37·4		—		−·0013	—	+ 0·6	—	—
52	123·3	36·8		—		−·0014	—	+ 0·7	—	—
57	124·8	43·0		—		−·0009	—	+ 1·8	—	—
08 02	125·1	44·2	32·4	—	—	−·0008	—	+ 2·0	—	—
07	124·2	43·6		—		−·0009	—	+ 1·3	—	—
12	124·2	42·8		—		−·0010	—	+ 1·2	—	—
17	124·4	44·0		—		−·0009	—	+ 1·3	—	—
22	124·2	43·4		—		−·0010	—	+ 1·1	—	—
27	124·5	42·9		—		−·0010	—	+ 1·3	—	—
32	125·0	43·7		—		−·0010	—	+ 1·5	—	—
37	125·0	44·1		—		−·0010	—	+ 1·5	—	—
42	125·3	43·6		—		−·0010	—	+ 1·6	—	—
47	125·6	44·4		—		−·0010	—	+ 1·8	—	—
52	125·8	45·3		—		−·0009	—	+ 1·9	—	—
57	126·1	45·8		—		−·0009	—	+ 2·0	—	—
09 02	126·4	46·4	32·4	—	—	−·0009	—	+ 2·3	—	—
07	126·3	44·8		—		−·0010	—	+ 2·0	—	—
12	126·7	45·9		—		−·0010	—	+ 2·4	—	—
17	127·0	46·2		—		−·0010	—	+ 2·6	—	—
22	127·0	46·3		—		−·0010	—	+ 2·6	—	—
27	127·0	47·4		—		−·0009	—	+ 2·5	—	—
32	127·2	47·8		—		−·0009	—	+ 2·6	—	—
37	127·3	47·9		—		−·0009	—	+ 2·6	—	—
42	127·2	48·2		—		−·0009	—	+ 2·5	—	—
47	127·4	49·5		—		−·0008	—	+ 2·6	—	—
52	127·2	49·0		—		−·0009	—	+ 2·4	—	—
57	127·3	47·7		—		−·0010	—	+ 2·5	—	—

TORONTO, 1844. FEBRUARY 2.

MEAN MONTHLY READINGS OF THE MAGNETOMETERS.

Mean Göttingen Time.	Declination.	H. F. at 43°·3.	V. F. at 44°·3.	Mean Göttingen Time.	Declination.	H. F. at 43°·3.	V. F. at 44°·3.
Hours.	Sc. Div.	Sc. Div.	Sc. Div.	Hours.	Sc. Div.	Sc. Div.	Sc. Div.
00	128·2	57·7	25·5	12	126·8	64·2	25·0
01	129·0	57·3	25·8	13	126·3	63·9	24·7
02	129·5	55·8	26·4	14	127·4	62·2	24·7
03	128·8	55·2	24·4	15	127·6	61·8	25·0
04	126·5	55·2	23·8	16	129·1	58·7	25·2
05	123·6	55·2	23·7	17	126·2	59·0	25·0
06	121·5	55·9	24·1	18	127·5	58·3	25·3
07	121·3	59·6	24·1	19	126·5	57·8	24·9
08	122·3	63·6	24·7	20	126·3	57·1	24·9
09	123·5	66·0	24·8	21	127·2	57·4	24·9
10	125·2	64·7	24·5	22	127·4	58·5	25·2
11	125·0	66·2	24·8	23	128·6	59·0	25·2

Coefficients (A).
Approximate Absolute Values (B).

(A)
- Declin. $a = 0'·721$
- H. F. $k = ·000087$, $q = ·00027$
- V. F. $k = ·000062$, $q = ·00007$

(B) Approx.
- $\psi = 1°\,24'$
- X = 3·54
- Y = 13·44
- $\theta = 75°\,16'$
- $\phi = 13·90$

1844. Toronto.

February 2.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours. $\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
2 16 02	130·5	—	—	—	—	—	—	+ 1·0	—	—
17 02	100·6	—	—	—	—	—	—	−18·4	—	—
07	104·7	—		—		—	—	−15·5	—	—
12	117·1	—		—		—	—	− 6·7	—	—
17	125·3	—		—		—	—	− 0·8	—	—
22	128·0	—		—		—	—	+ 1·0	—	—
27	127·4	—		—		—	—	+ 0·5	—	—
32	123·4	—		—		—	—	− 2·5	—	—
37	123·5	—		—		—	—	− 2·6	—	—
42	123·5	—		—		—	—	− 2·6	—	—
47	125·7	—		—		—	—	− 1·1	—	—
52	131·5	—		—		—	—	+ 3·0	—	—
57	132·3	—		—		—	—	+ 3·5	—	—
18 02	137·0	—	—	—	—	—	—	+ 6·9	—	—
07	138·9	—		—		—	—	+ 8·3	—	—
12	139·3	—		—		—	—	+ 8·7	—	—
17	138·4	—		—		—	—	+ 8·0	—	—
22	137·0	—		—		—	—	+ 7·1	—	—
27	136·3	—		—		—	—	+ 6·6	—	—
32	135·4	—		—		—	—	+ 6·1	—	—
37	135·0	—		—		—	—	+ 5·9	—	—
42	134·7	—		—		—	—	+ 5·6	—	—
47	133·1	—		—		—	—	+ 4·5	—	—
52	131·2	—		—		—	—	+ 3·3	—	—
57	130·0	—		—		—	—	+ 2·5	—	—
19 02	128·8	—	—	—	—	—	—	+ 1·6	—	—

1844. Van Diemen Island.

February 4.

VAN DIEMEN ISLAND, 1844. FEBRUARY 4, 5, and 8.

MEAN MONTHLY READINGS OF THE MAGNETOMETERS.

Mean Göttingen Time.	Declination.	H. F. at 64°·8.	V. F. at 63°·2.	Mean Göttingen Time.	Declination.	H. F. at 64°·8.	V. F. at 63°·2.
Hours.	Sc. Div.	Sc. Div.	Sc. Div.	Hours.	Sc. Div.	Sc. Div.	Sc. Div.
00	73·3	92·0	57·6	12	66·8	88·2	66·0
01	72·5	92·0	57·7	13	67·3	85·3	69·8
02	72·3	92·0	58·6	14	70·9	83·7	72·2
03	72·7	91·5	59·6	15	75·3	84·6	74·2
04	73·3	91·6	60·0	16	80·2	86·0	70·5
05	73·5	91·8	59·5	17	83·2	88·6	68·5
06	74·1	91·9	59·8	18	84·0	91·0	64·8
07	74·2	91·5	60·9	19	82·3	91·8	62·3
08	73·9	91·5	60·8	20	79·8	92·1	60·5
09	73·0	91·0	60·6	21	77·2	92·2	59·6
10	71·2	91·0	61·5	22	76·0	91·9	59·6
11	68·2	90·2	62·6	23	75·2	92·2	57·9

Coefficients (A), Approximate Absolute Values (B.)

(A) Declin. $a = 0'·71$

H. F. $k = ·000229$, $q = ·000230$

V. F. $k = ·000036$, $q = ·00021$

(B) Approx. $\psi = -\ 9°\ 55'$, $X = 4·51$, $Y = 12·86$, $\theta = -\ 70°\ 37'$, $\phi = 13·62$

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours. $\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
4 15 02	66·0	84·0	61·6	81·4	60·1	−·0009	−·0004	− 6·6	+ 0·6	−·0005
16 02	81·0	86·0	61·2	76·3	60·2	−·0008	−·0004	+ 0·6	+ 0·4	−·0004
07	—	86·3		76·7		−·0008	−·0004	—	+ 0·4	−·0004
12	81·8	86·7		75·4		−·0007	−·0004	+ 0·8	+ 0·3	−·0004

1844.
Van Diemen Island.

February 4, 5, & 8.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm.	Sc. Div.	Therm.	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
4 16 17	82·1	87·3		74·5		−·0006	−·0005	+ 0·8	+ 0·1	−·0005
22	82·7	88·0		73·9		−·0005	−·0005	+ 1·1	0·0	−·0005
27	82·7	—		—		—	—	+ 0·9	—	—
17 02	84·4	88·2	61·8	76·0	60·6	−·0008	−·0003	+ 0·8	+ 0·6	−·0004
18 02	84·7	91·8	62·4	71·2	61·0	−·0004	−·0003	+ 0·5	+ 0·1	−·0003
19 02	82·6	90·6	63·0	68·7	61·5	−·0007	−·0001	+ 0·2	+ 0·7	−·0002
20 02	79·5	90·7	63·5	65·9	61·8	−·0006	−·0001	− 0·2	+ 0·4	−·0002
21 02	76·4	90·9	63·7	65·7	62·2	−·0005	·0000	− 0·6	+ 0·4	−·0001
22 02	75·7	91·3	63·8	63·4	62·4	−·0004	·0000	− 0·2	− 0·4	·0000
23 02	72·2	89·0	64·0	63·5	62·6	−·0009	+·0001	− 2·1	+ 1·1	·0000
5 00 02	66·3	92·3	63·8	53·9	62·6	−·0002	−·0003	− 9·2	− 0·1	−·0003
01 02	59·8	87·0	63·4	59·5	62·4	−·0015	−·0001	− 9·0	+ 1·5	−·0002
12	62·0	86·0		65·4		−·0017	+·0001	− 7·2	+ 1·9	−·0001
17	63·1	86·1		67·1		−·0016	+·0002	− 6·6	+ 1·9	·0000
22	64·2	86·5		68·4		−·0016	+·0002	− 5·8	+ 1·9	·0000
27	65·3	86·4		69·6		−·0016	+·0003	− 5·0	+ 2·1	+·0001
32	66·8	86·7		71·1		−·0015	+·0003	− 4·0	+ 1·9	+·0001
37	68·4	87·2		71·6		−·0014	+·0003	− 2·8	+ 1·8	+·0001
42	69·6	88·8		70·3		−·0010	+·0003	− 2·0	+ 1·4	+·0002
47	70·8	89·7		69·2		−·0008	+·0003	− 1·1	+ 1·2	+·0002
52	71·8	89·6		67·9		−·0008	+·0002	− 0·4	+ 1·1	+·0001
57	71·8	89·4		67·3		−·0009	+·0002	− 0·4	+ 1·2	+·0001
02 02	71·4	89·3	63·7	66·7	62·6	−·0009	+·0002	− 0·6	+ 1·2	+·0001
07	71·2	88·2		67·1		−·0011	+·0002	− 0·8	+ 1·4	+·0001
12	71·3	89·1		67·4		−·0009	+·0002	− 0·8	+ 1·2	+·0001
17	71·4	89·2		67·3		−·0009	+·0002	− 0·7	+ 1·2	+·0001
22	71·6	89·0		67·7		−·0009	+·0002	− 0·6	+ 1·2	+·0001
27	71·8	88·8		68·4		−·0009	+·0002	− 0·5	+ 1·2	+·0001
32	72·1	89·1		68·8		−·0009	+·0002	− 0·3	+ 1·2	+·0001
37	72·8	89·5		68·5		−·0008	+·0002	+ 0·2	+ 1·1	+·0001
42	72·9	89·8		68·2		−·0007	+·0002	+ 0·2	+ 1·0	+·0001
47	73·2	89·9		66·9		−·0007	+·0002	+ 0·4	+ 1·0	+·0001
52	72·7	—		—		—	—	+ 0·1	—	—
03 02	72·0	89·0	63·6	66·9	62·6	−·0008	+ ·0001	− 0·5	+ 1·0	·0000
8 04 02	68·1	93·1	61·0	62·6	60·0	−·0005	−·0006	− 3·7	− 0·1	−·0006
05 02	63·5	94·1	60·8	50·0	59·8	−·0004	−·0011	− 7·1	− 0·8	−·0010
07	63·3	94·2		53·5		−·0004	−·0010	− 7·3	− 0·7	−·0009
12	64·2	94·0		55·7		−·0004	−·0009	− 6·7	− 0·6	−·0008
17	65·6	93·5		58·4		−·0005	−·0008	− 5·8	− 0·3	−·0008
22	67·0	92·9		61·4		−·0007	−·0007	− 4·8	—	−·0007
27	68·6	91·8		63·2		−·0009	−·0006	− 3·7	+ 0·3	−·0006
32	69·4	90·9		66·1		−·0011	−·0005	− 3·1	+ 0·7	−·0006
37	69·5	90·7		67·7		−·0012	−·0005	− 3·1	+ 0·8	−·0006
42	69·8	90·8		68·8		−·0012	−·0005	− 2·9	+ 0·8	−·0006
06 02	70·8	91·2	60·7	69·5	59·3	−·0011	−·0005	− 2·3	+ 0·7	−·0006

TORONTO, 1844. FEBRUARY 10 and 28.

1844.
Toronto.

February 10.

For Mean Monthly Readings, *see* page 299.

10 11 02	124·1	64·5	40·6	36·4	40·2	−·0009	+·0004	− 0·6	+ 1·1	+·0003
12 02	142·3	51·3	40·4	37·6	40·4	−·0019	+·0005	+11·2	+ 2·0	+·0003
07	141·0	52·5		36·9		−·0018	+·0005	+10·2	+ 1·9	+·0003
12	139·0	52·9		36·1		−·0018	+·0004	+ 8·9	+ 1·9	+·0003
17	137·0	53·0		35·4		−·0017	+·0004	+ 7·4	+ 1·8	+·0003
22	133·8	55·4		35·4		−·0015	+·0004	+ 5·1	+ 1·6	+·0003
27	130·1	56·9		35·8		−·0014	+·0004	+ 2·6	+ 1·5	+·0003
32	128·8	58·8		35·2		−·0012	+·0004	+ 1·5	+ 1·4	+·0003
37	127·4	60·3		35·2		−·0011	+·0004	+ 0·6	+ 1·3	+·0003

1844.
Toronto.

February 10 & 28.

OBSERVATIONS OF THE MAGNETOMETERS. The Declination was observed 2m. before, and the V. F. 1m. after the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta \psi$	$\Delta \theta$	$\frac{\Delta \phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
10 12 42	125·9	60·6		35·0		−·0010	+·0004	− 0·4	+ 1·2	+·0003
47	124·2	61·1		35·0		−·0010	+·0004	− 1·5	+ 1·2	+·0003
52	123·9	60·8		35·3		−·0010	+·0004	− 1·8	+ 1·2	+·0003
57	124·0	60·6		34·4		−·0010	+·0004	− 1·6	+ 1·2	+·0003
13 02	123·7	62·3	40·6	34·4	40·8	−·0009	+·0004	− 1·8	+ 1·1	+·0003
07	123·1	62·5		34·4		−·0009	+·0004	− 2·4	+ 1·1	+·0003
12	124·0	61·3		33·8		−·0010	+·0003	− 1·8	+ 1·1	+·0002
14 02	128·7	66·1	39·8	34·8	49·2	−·0006	+·0003	+ 0·9	+ 0·8	+·0002
28 16 02	164·0	4·9	45·8	27·7	46·1	−·0040	+·0003	+25·1	+ 3·6	·0000
07	162·4	2·4		28·1		−·0042	+·0003	+24·2	+ 3·8	·0000
12	160·1	4·7		33·2		−·0040	+·0006	+22·7	+ 3·9	+·0003
17	161·9	19·1		32·4		−·0028	+·0006	+24·2	+ 2·9	+·0004
22	155·2	21·0		32·2		−·0026	+·0006	+19·5	+ 2·7	+·0004
27	148·6	18·7		32·4		−·0028	+·0006	+14·9	+ 2·9	+·0004
32	146·8	13·7		31·4		−·0032	+·0006	+13·8	+ 3·2	+·0004
37	146·2	20·8		30·3		−·0026	+·0005	+13·6	+ 2·6	+·0003
42	142·2	26·2		29·2		−·0021	+·0004	+10·8	+ 2·1	+·0002
47	139·2	28·6		27·9		−·0019	+·0003	+ 8·9	+ 1·9	+·0002
52	136·5	28·1		25·8		−·0019	+·0002	+ 7·1	+ 1·8	+·0001
57	133·2	26·5		25·3		−·0021	+·0002	+ 4·9	+ 1·9	·0000
17 02	131·0	24·6	46·1	25·1	46·9	−·0022	+·0002	+ 3·5	+ 2·0	·0000
07	130·9	22·9		23·8		−·0024	+·0001	+ 3·3	+ 2·1	−·0001
12	130·8	20·0		23·8		−·0026	+·0001	+ 3·2	+ 2·3	−·0001
17	131·9	22·1		24·6		−·0025	+·0002	+ 3·9	+ 2·3	·0000
22	134·3	24·2		24·8		−·0023	+·0002	+ 5·5	+ 2·1	·0000
27	135·2	27·2		25·6		−·0020	+·0002	+ 6·2	+ 1·9	+·0001
32	135·0	29·3		25·9		−·0018	+·0002	+ 5·9	+ 1·7	+·0001
37	136·3	34·2		26·0		−·0014	+·0003	+ 6·7	+ 1·4	+·0002
42	134·7	36·7		25·7		−·0012	+.0002	+ 5·4	+ 1·2	+·0001
47	133·0	38·1		25·6		−·0010	+·0002	+ 4·2	+ 1·0	+·0001
52	133·2	37·8		23·9		−·0011	+·0001	+ 4·2	+ 1·0	·0000
57	133·0	36·1		22·9		−·0012	+·0001	+ 4·0	+ 1·1	·0000
18 02	134·0	38·9	46·0	22·9	47·1	−·0010	+·0001	+ 4·7	+ 0·9	·0000
07	132·8	40·1		22·4		−·0008	·0000	+ 3·9	+ 0·7	·0000
12	129·5	40·3		22·2		−·0008	·0000	+ 1·5	+ 0·7	·0000
17	126·9	38·2		22·2		−·0010	·0000	− 0·3	+ 0·9	−·0001
22	123·3	38·2		22·2		−·0010	·0000	− 2·8	+ 0·9	−·0001
27	123·2	38·4		22·2		−·0009	·0000	− 2·8	+ 0·8	−·0001
32	122·8	41·0		22·2		−·0007	·0000	− 3·0	+ 0·6	·0000
37	121·4	43·0		22·2		−·0005	·0000	− 4·0	+ 0·4	·0000
42	121·8	43·0		22·2		−·0005	·0000	− 3·6	+ 0·4	·0000
47	123·7	43·4		21·2		−·0004	·0000	− 2·3	+ 0·3	·0000
52	126·7	43·1		20·8		−·0005	−·0001	0·0	+ 0·3	−·0001
57	127·0	43·0		21·5		−·0004	·0000	+ 0·3	+ 0·3	·0000
19 02	128·0	43·8	46·5	20·2	47·1	−·0004	−·0001	+ 1·1	+·0·2	−·0001

VAN DIEMEN ISLAND, 1844. MARCH 2 and 4.

MEAN MONTHLY READINGS OF THE MAGNETOMETERS.

Mean Göttingen Time.	Declination.	H. F. at 60°·4.	V. F. at 58°·9.	Mean Göttingen Time.	Declination.	H. F. at 60°·4.	V. F. at 58°·9.
Hours.	Sc. Div.	Sc. Div.	Sc. Div.	Hours.	Sc. Div.	Sc. Div.	Sc. Div.
00	72·9	96·3	75·6	12	70·1	92·8	72·0
01	72·2	96·1	76·6	13	70·6	90·1	75·0
02	72·2	96·7	75·5	14	73·7	89·2	77·2
03	73·7	97·8	74·1	15	78·3	90·1	75·7
04	73·9	96·8	74·5	16	81·7	91·6	77·0
05	74·6	96·8	73·6	17	83·2	93·4	75·9
06	75·0	96·5	72·1	18	82·7	94·6	77·7
07	75·1	96·4	73·2	19	80·9	95·7	76·8
08	75·0	96·3	72·0	20	78·7	95·8	78·7
09	74·5	96·3	71·1	21	76·2	95·8	77·3
10	73·8	95·7	72·2	22	75·1	96·0	76·0
11	72·1	94·5	71·9	23	73·3	96·5	75·2

Coefficients (A), Approximate Absolute Values (B).

(A)
- Declin. $a = 0' \cdot 71$
- H. F. $k = \cdot 000229$, $q = \cdot 000230$
- V. F. $k = \cdot 000036$, $q = \cdot 00021$

(B) Approx.
- $\psi = -\ 9°\ 55'$
- $X = 4 \cdot 51$
- $Y = 12 \cdot 86$
- $\theta = -\ 70°\ 37'$
- $\phi = 13 \cdot 62$

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
2 00 02	74·2	91·8	65·2	59·7	64·0	+·0001	+·0005	+ 0·9	− 0·4	+·0005
01 02	67·8	90·1	65·0	58·5	63·7	−·0003	+·0004	− 3·1	+ 0·8	+·0003
07	67·2	90·5		57·5		−·0003	+·0003	− 3·6	+ 0·7	+·0002
12	66·2	91·7		56·6		·0000	+·0003	− 4·3	+ 0·3	+·0003
17	66·5	92·1		56·2		+·0001	+·0003	− 4·1	+ 0·3	+·0004
22	67·3	91·8		56·4		·0000	+·0003	− 3·5	+ 0·3	+·0003
27	68·0	91·1		57·7		−·0002	+·0003	− 3·0	+ 0·5	+·0002
32	68·4	91·2		56·0		−·0002	+·0003	− 2·7	+ 0·5	+·0002
37	66·3	91·9		53·6		·0000	+·0002	− 4·2	+ 0·2	+·0002
42	62·7	94·0		50·1		+·0005	+·0001	− 6·8	− 0·4	+·0001
47	62·5	95·1		46·8		+·0007	−·0001	− 6·9	− 0·9	·0000
52	62·6	94·8		46·6		+·0006	−·0001	− 6·8	− 0·8	·0000
57	63·1	94·0		46·0		+·0004	−·0001	− 6·5	− 0·5	·0000
02 02	62·3	93·8	64·8	46·2	63·6	+·0003	−·0001	− 7·0	− 0·4	−·0001
07	62·1	94·1		47·5		+·0004	·0000	− 7·2	− 0·4	·0000
12	63·4	93·0		48·5		+·0001	·0000	− 6·5	− 0·1	·0000
17	63·1	93·3		48·7		+·0002	·0000	− 6·8	− 0·2	·0000
22	61·8	94·0		47·7		+·0003	·0000	− 7·7	− 0·3	·0000
27	61·5	94·2		47·1		+·0003	·0000	− 8·0	− 0·3	·0000
32	61·6	93·1		47·5		·0000	·0000	− 8·1	0·0	·0000
37	61·1	92·2		46·7		−·0001	·0000	− 8·5	+ 0·1	·0000
42	61·0	91·3		48·6		−·0004	+·0001	− 8·7	+ 0·5	·0000
47	61·0	91·0		50·3		−·0005	+·0001	− 8·7	+ 0·7	·0000
52	61·6	91·3		51·2		−·0004	+·0002	− 8·5	+ 0·7	+·0001
57	62·9	91·9		54·4		−·0003	+·0003	− 7·6	+ 0·7	+·0002
03 02	65·0	91·8	64·9	55·9	63·6	−·0003	+·0003	− 6·2	+ 0·7	+·0002
07	66·4	91·1		57·0		−·0005	+·0004	− 5·2	+ 1·0	+·0003
12	67·2	90·8		58·7		−·0005	+·0004	− 4·6	+ 1·0	+·0003
17	67·9	90·9		60·3		−·0005	+·0005	− 4·2	+ 1·1	+·0004
22	68·8	91·3		60·3		−·0004	+·0005	− 3·6	+ 1·0	+·0004
27	69·7	91·6		61·2		−·0003	+·0005	− 2·9	+ 0·9	+·0004
32	70·6	91·5		61·3		−·0003	+·0005	− 2·3	+ 0·9	+·0004
37	70·9	91·5		61·3		−·0003	+·0005	− 2·1	+ 0·9	+·0004
42	71·0	91·7		61·0		−·0002	+·0005	− 2·0	+ 0·8	+·0004
47	71·2	—		—		—	—	− 1·9	—	—
4 01 02	70·0	93·5	60·0	75·1	59·0	−·0007	·0000	− 1·6	+ 0·8	−·0001
02 02	70·9	95·1	60·0	74·9	59·0	−·0005	·0000	− 0·9	+ 0·5	−·0001
07	70·5	95·1		74·6		−·0005	·0000	− 1·3	+ 0·5	−·0001
12	70 0	95·3		74·6		−·0005	·0000	− 1·8	+ 0·5	−·0001

1844.
Van Diemen Island.

March 4.

OBSERVATIONS OF THE MAGNETOMETERS. The Declination was observed 2m. before, and the V. F. 1m. after the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
4 02 17	70·7	95·6		73·1		−·0004	−·0001	− 1·4	+ 0·3	−·0001
22	72·7	96·1		75·7		−·0003	+·0001	0·0	+ 0·4	+·0001
27	73·6	97·4		76·5		·0000	+·0001	+ 0·6	+ 0·1	+·0001
32	77·1	99·7		75·0		+·0005	·0000	+ 2·9	− 0·5	+·0004
37	78·4	99·5		72·5		+·0004	−·0001	+ 3·8	− 0·5	·0000
42	77·9	99·1		69·0		+·0003	+·0002	+ 3·3	− 0·1	+·0002
47	76·4	99·1		68·5		+·0003	+·0002	+ 2·2	− 0·1	+·0002
52	75·6	99·0		69·3		+·0002	−·0002	+ 1·5	− 0·4	−·0002
57	77·9	—		—		—	—	+ 3·1	—	—
03 02	80·3	101·1	60·0	68·8	59·0	+·0007	−·0002	+ 4·7	− 1·0	−·0001
07	—	100·1		64·9		+·0005	−·0003	—	− 0·9	−·0002
12	76·8	99·8		63·2		+·0004	−·0004	+ 2·2	− 0·9	−·0003
17	74·4	99·4		61·6		+·0003	−·0004	+ 0·4	− 0·8	−·0003
22	73·1	98·5		61·9		+·0002	−·0004	− 0·5	− 0·7	−·0003
27	72·5	98·0		63·0		+·0001	−·0004	− 0·9	− 0·6	−·0003
32	71·7	97·2		63·5		−·0001	−·0004	− 1·5	− 0·3	−·0004
37	71·5	96·3		66·5		−·0003	−·0002	− 1·6	+ 0·1	−·0002
42	71·5	95·7		67·9		−·0004	−·0002	− 1·6	+ 0·2	−·0002
47	72·1	95·6		70·6		−·0004	−·0001	− 1·3	+ 0·3	−·0001
52	72·6	95·7		72·0		−·0003	−·0001	− 0·9	+ 0·2	−·0001
57	74·5	96·5		72·5		−·0001	−·0001	+ 0·4	0·0	−·0001
04 02	78·0	97·3	60·3	75·7	59·1	+·0001	+·0001	+ 2·9	0·0	+·0001
07	80·5	99·6		72·9		+·0006	·0000	+ 4·6	− 0·7	+·0001
12	82·2	100·7		70·9		+·0009	−·0001	+ 5·8	− 1·1	·0000
17	82·8	100·8		69·8		+·0009	−·0001	+ 6·2	− 1·1	·0000
22	82·2	100·3		66·3		+·0008	−·0002	+ 5·8	− 1·1	−·0001
27	81·0	100·2		65·4		+·0008	−·0003	+ 4·8	− 1·2	−·0002
32	79·9	99·2		65·4		+·0005	−·0003	+ 4·1	− 0·9	−·0002
37	78·9	98·6		64·4		+·0004	−·0003	+ 3·3	− 0·8	−·0002
42	78·0	97·6		65·1		+·0001	−·0003	+ 2·6	− 0·4	−·0003
47	76·6	97·2		65·5		·0000	−·0003	+ 1·6	− 0·3	−·0003
52	75·1	96·7		65·5		−·0001	−·0003	+ 0·4	− 0·2	−·0003
57	74·4	96·4		66·4		−·0001	−·0002	− 0·1	− 0·1	−·0002
05 02	74·2	95·9	60·2	66·9	59·1	−·0003	−·0002	− 0·3	+ 0·1	−·0002
07	73·7	95·8		67·0		−·0003	−·0002	− 0·6	+ 0·1	−·0002
12	73·5	95·9		67·3		−·0002	−·0002	− 0·9	0·0	−·0002
17	73·6	95·7		67·9		−·0003	−·0002	− 0·8	+ 0·1	−·0002
22	73·4	—		—		—	—	− 0·9	—	—
06 02	73·2	95·7	60·0	78·8	58·9	−·0003	+·0002	− 1·3	+ 0·6	+·0001
07 02	72·8	94·9	59·8	71·6	58·7	−·0005	·0000	− 1·6	+ 0·6	−·0001
08 02	83·8	92·2	59·2	80·9	58·4	−·0012	+·0002	+ 6·3	+ 1·5	+·0001
07	84·2	92·9		79·8		−·0011	+·0002	+ 6·5	+ 1·4	+·0001
12	83·3	93·4		76·8		−·0009	+·0001	+ 6·0	+ 1·1	·0000
17	81·6	94·1		74·7		−·0008	·0000	+ 4·8	+ 0·9	−·0001
22	79·7	94·8		71·1		−·0006	−·0002	+ 3·5	+ 0·4	−·0002
27	78·7	95·3		69·6		−·0005	−·0002	+ 2·8	+ 0·3	−·0002
32	77·7	95·4		67·7		−·0005	−·0003	+ 2·1	+ 0·2	−·0003
37	77·5	95·6		66·9		−·0005	−·0003	+ 2·0	+ 0·2	−·0003
42	77·3	95·3		65·7		−·0005	−·0004	+ 1·9	+ 0·1	−·0004
47	76·5	95·9		65·2		−·0004	−·0004	+ 1·4	0·0	−·0004
52	75·0	96·2		64·9		−·0003	−·0004	+ 0·3	− 0·1	−·0004
57	74·7	96·6		65·7		−·0003	−·0004	+ 0·1	− 0·1	−·0004
09 02	76·0	96·7	59·0	64·6	58·0	−·0003	−·0004	+ 1·1	− 0·1	−·0004

TORONTO, 1844. MARCH 4.

MEAN MONTHLY READINGS OF THE MAGNETOMETERS.

Mean Göttingen Time.	Declination.	H. F. at 46°·3.	V. F. at 46°·5.	Mean Göttingen Time.	Declination.	H. F. at 46°·3.	V. F. at 46°·5.
Hours.	Sc. Div.	Sc. Div.	Sc. Div.	Hours.	Sc. Div.	Sc. Div.	Sc. Div.
00	127·9	123·3	90·9	12	124·1	128·5	95·2
01	129·8	123·2	92·4	13	126·4	127·4	96·0
02	130·3	119·6	92·5	14	129·1	126·3	94·2
03	129·9	116·5	92·2	15	128·6	124·3	93·1
04	127·3	115·6	91·1	16	129·2	123·3	92·7
05	124·0	115·0	90·7	17	128·2	122·0	90·9
06	120·5	113·7	91·0	18	125·1	122·1	86·7
07	119·5	117·0	92·2	19	128·7	120·0	89·0
08	119·5	123·7	92·7	20	128·0	121·0	89·6
09	120·8	130·6	93·5	21	125·8	122·5	88·6
10	121·8	131·0	94·5	22	128·2	123·5	89·7
11	123·9	130·1	95·2	23	128·3	122·8	89·9

Coefficients (A), Approximate Absolute Values (B.)

(A)
- Declin. $a = 0' \cdot 721$
- H. F. $h = \cdot 000087$, $q = \cdot 00027$
- V. F. $h = \cdot 000062$, $q = \cdot 00007$

(B) Approx.
- $\Psi = 1° 24'$
- $X = 3 \cdot 54$
- $Y = 13 \cdot 44$
- $\theta = 75° 16'$
- $\phi = 13 \cdot 90$

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\Psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm.	Sc. Div.	Therm.	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
4 13 02	125·5	131·5	43°·0	102·0	42°·6	−·0005	+·0001	+ 0·6	+ 0·5	+·0001
14 02	131·7	126·5	42·4	102·3	42·4	−·0010	+·0002	+ 1·8	+ 1·0	+·0001
32	150·7	115·7		100·5		−·0020	+·0001	+15·7	+ 1·8	·0000
37	155·8	117·4		99·9		−·0018	+·0001	+19·4	+ 1·6	·0000
42	155·4	118·8		97·8		−·0017	·0000	+19·1	+ 1·4	−·0001
47	149·9	118·1		97·6		−·0018	·0000	+15·2	+ 1·5	−·0001
52	144·0	112·8		97·6		−·0022	·0000	+11·0	+ 1·9	−·0001
57	140·9	109·3		98·3		−·0025	·0000	+ 8·9	+ 2·1	−·0002
15 02	138·6	113·3	41·8	99·4	42·4	−·0022	+·0001	+ 7·2	+ 1·9	−·0001
07	136·3	119·9		97·8		−·0016	·0000	+ 5·4	+ 1·4	−·0001
12	134·6	124·5		95·3		−·0012	−·0001	+ 4·2	+ 0·9	−·0002
17	128·1	119·1		96·7		−·0017	·0000	− 0·5	+ 1·4	−·0001
22	129·3	128·1		97·7		−·0009	·0000	+ 0·4	+ 0·8	−·0001
27	132·3	130·3		93·2		−·0007	−·0003	+ 2·5	+ 0·3	−·0003
32	126·0	126·6		92·9		−·0010	−·0003	− 2·0	+ 0·6	−·0003
37	123·5	120·6		94·5		−·0015	−·0002	− 4·0	+ 1·1	−·0003
42	127·9	124·0		97·6		−·0012	·0000	− 0·8	+ 1·0	−·0001
47	129·1	124·3		97·5		−·0012	·0000	0·0	+ 1·0	−·0001
52	129·0	124·6		97·4		−·0012	·0000	− 0·1	+ 1·0	−·0001
57	140·7	123·4		97·9		−·0013	+·0001	+ 8·3	+ 1·2	·0000
16 02	144·6	125·8	41·6	96·7	43·0	−·0011	·0000	+11 1	+ 0·9	−·0001
07	143·5	125·9		95·9		−·0010	·0000	+10·4	+ 0·9	−·0001
12	139·1	133·0		95·6		−·0004	−·0001	+ 7·3	+ 0·2	−·0001
17	135·9	133·1		95·6		−·0004	·0000	+ 4·9	+ 0·3	·0000
22	133·7	132·8		95·4		−·0004	·0000	+ 3·5	+ 0·3	·0000
27	133·8	127·5		94·8		−·0009	−·0001	+ 3·6	+ 0·7	−·0001
32	137·7	123·9		94·4		−·0012	−·0001	+ 6·5	+ 0·9	−·0002
37	138·3	122·7		93·8		−·0013	−·0001	+ 7·0	+ 1·0	−·0002
42	136·2	119·6		93·8		−·0015	−·0001	+ 5·5	+ 1·2	−·0002
47	135·5	121·5		94·5		−·0014	·0000	+ 5·0	+ 1·2	−·0001
52	132·5	121·9		95·8		−·0013	·0000	+ 3·0	+ 1·1	−·0001
57	131·3	120·2		95·8		−·0015	+·0001	+ 2·2	+ 1·4	·0000
17 02	130·9	121·3	41·5	97·6	43·1	−·0014	+·0002	+ 1·9	+ 1·4	+·0001
07	129·2	122·6		98·2		−·0013	+·0002	+ 0·9	+ 1·3	+·0001
12	129·0	122·8		98·2		−·0012	+·0003	+ 0·9	+ 1·3	+·0002
17	129·0	124·2		97·1		−·0011	+·0002	+ 1·1	+ 1·1	+·0001
18 02	119·4	124·7	41·4	90·5	42·8	−·0011	·0000	− 4·1	+ 0·9	−·0001
19 02	128·2	127·5	39·8	94·4	40·8	−·0011	−·0001	− 0·4	+ 0·9	−·0002

1844.
Van Diemen Island.

March 5—6.

For Mean Monthly Readings, *see* page 303.

VAN DIEMEN ISLAND, 1844. MARCH 5—7.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	*Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
5 02 02	67·5	91·2	63·2	68·6	62·4	−·0006	+·0005	− 3·3	+ 1·2	+·0004
07	70·0	94·2		66·6		·0000	+·0004	− 1·6	+ 0·4	+·0004
12	70·2	96·5		61·5		−·0006	+·0002	− 1·6	+ 0·9	+·0001
17	71·3	96·6		57·9		−·0006	+·0001	− 0·9	+ 0·8	·0000
22	72·6	95·1		56·3		−·0002	+·0001	− 0·1	+ 0·3	+·0001
27	72·6	92·9		57·4		−·0003	+·0001	− 0·1	+ 0·4	+·0001
32	72·0	91·8		60·2		−·0006	+·0002	− 0·7	+ 0·9	+·0001
37	72·5	90·9		62·1		−·0008	+·0003	− 0·4	+ 1·2	+·0002
42	71·4	90·9		63·1		−·0008	+·0004	− 1·3	+ 1·3	+·0003
47	71·0	91·8		64·0		−·0006	+·0004	− 1·6	+ 1·1	+·0003
52	72·0	—		—		—	—	− 1·1	+ —	—
03 02	77·5	97·5	63·4	58·0	62·7	−·0006	+·0004	+ 2·7	+ 1·1	+·0003
07	—	95·9		54·2		−·0003	+·0001	—	+ 0·4	+·0001
12	75·2	95·6		52·5		−·0003	·0000	+ 1·1	+ 0·3	·0000
17	73·8	95·0		52·1		−·0001	·0000	0·0	+ 0·1	·0000
22	72·8	94·5		53·0		−·0001	+·0001	− 0·7	+ 0·2	+·0001
27	72·2	94·0		52·8		·0000	·0000	− 1·1	0·0	·0000
32	72·0	93·6		54·7		−·0001	+·0001	− 1·3	+ 0·2	+·0001
37	72·2	93·2		55·4		−·0001	+·0001	− 1·1	+ 0·2	+·0001
42	71·9	—		—		—	—	− 1·4	—	—
04 02	73·2	91·8	64·2	60·7	62·9	−·0003	+·0004	− 0·5	+ 0·8	+·0003
05 02	74·2	91·6	64·3	68·1	63·2	−·0003	+·0007	− 0·3	+ 1·1	+·0006
06 02	77·0	91·0	64·2	65·8	63·1	−·0004	+·0007	+ 1·4	+ 1·2	+·0006
07 02	78·4	91·2	64·2	64·4	63·1	−·0003	+·0006	+ 2·3	+ 1·0	+·0005
08 02	81·1	91·3	64·0	63·3	63·0	−·0003	+·0006	+ 4·4	+ 1·0	+·0005
09 02	77·3	91·5	64·0	63·3	63·0	−·0003	+·0006	+ 2·0	+ 1·0	+·0005
10 02	79·1	87·6	64·0	67·9	63·0	−·0010	+·0007	+ 3·8	+ 1·8	+·0005
11 02	80·0	86·4	64·0	68·1	63·0	−·0010	+·0008	+ 5·6	+ 1·9	+·0006
12 02	75·4	83·3	64·0	66·2	63·0	−·0014	+·0007	+ 3·8	+ 2·3	+·0005
13 02	72·8	80·8	64·3	70·0	63·3	−·0013	+·0008	+ 1·5	+ 2·3	+·0006
14 02	76·4	78·8	64·8	69·6	63·7	−·0014	+·0008	+ 1·9	+ 2·4	+·0006
15 02	79·6	81·6	65·3	66·7	64·0	−·0008	+·0008	+ 0·9	+ 1·7	+·0006
16 02	79·6	82·0	65·9	61·1	64·6	−·0009	+·0007	− 1·5	+ 1·7	+·0005
17 02	84·2	80·0	66·0	67·1	65·0	−·0018	+·0010	+ 0·7	+ 3·0	+·0007
18 02	81·8	85·6	66·4	57·1	65·4	−·0007	+·0007	− 0·6	+ 1·5	+·0006
19 02	80·5	89·6	66·8	51·1	65·6	+·0001	+·0005	− 0·3	+ 0·4	+·0005
20 02	78·2	90·0	67·0	53·2	65·8	+·0002	+·0006	− 0·4	+ 0·4	+·0006
21 02	76·2	90·3	67·0	50·5	66·0	+·0002	+·0006	0·0	+ 0·4	+·0006
22 02	75·3	90·0	67·2	50·1	65·7	+·0002	+·0005	+ 0·1	+ 0·3	+·0005
23 02	70·5	84·8	67·8	57·5	65·7	−·0010	+·0008	− 2·0	+ 1·9	+·0006
6 00 02	62·4	89·3	66·4	42·5	65·4	−·0002	+·0002	− 7·5	+ 0·4	+·0002
17	66·0	—		—		—	—	− 4·8	—	—
22	64·9	85·2		47·2		−·0012	+·0003	− 5·5	+ 1·6	+·0001
27	63·4	89·4		54·4		−·0002	+·0006	− 6·5	+ 0·9	+·0005
32	71·9	87·9		50·8		−·0006	+·0004	− 0·5	+ 1·1	+·0003
37	70·9	84·8		49·4		−·0013	+·0004	− 1·1	+ 1·8	+·0002
42	69·2	82·8		52·0		−·0017	+·0005	− 2·3	+ 2·4	+·0003
47	64·0	83·5		53·7		−·0016	+·0005	− 6·0	+ 2·3	+·0003
52	65·2	84·4		55·9		−·0013	+·0006	− 5·0	+ 2·0	+·0004
57	66·3	84·5		56·1		−·0013	+·0006	− 4·3	+ 2·0	+·0004
01 02	65·4	86·1	66·2	52·0	65·2	−·0010	+·0004	− 4·8	+ 1·5	+·0003
07	64·7	87·5		51·4		−·0007	+·0004	− 5·3	+ 1·2	+·0003
12	66·0	88·0		51·9		−·0006	+·0004	− 4·4	+ 1·1	+·0003
17	67·8	88·6		50·7		−·0005	+·0004	− 3·1	+ 1·0	+·0003
22	69·0	88·2		47·4		−·0006	+·0003	− 2·3	+ 1·0	+·0002
27	68·7	86·8		47·1		−·0009	+·0003	− 2·5	+ 1·3	+·0002
32	67·5	85·9		48·2		−·0011	+·0003	− 3·3	+ 1·5	+·0002
37	65·7	84·7		48·2		−·0014	+·0003	− 4·6	+ 1·8	+·0001
42	64·0	84·3		48·7		−·0015	+·0003	− 5·8	+ 1·9	+·0001
47	63·1	84·3		49·6		−·0015	+·0004	− 6·5	+ 2·0	+·0002

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Van Diemen Island.

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OBSERVATIONS OF THE MAGNETOMETERS. The Declination was observed 2m. before, and the V. F. 1m. after the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
6 01 52	64·1	86·2		52·4		−·0011	+·0005	− 5·8	+ 1·7	+·0003
57	67·7	87·8		51·9		−·0008	+·0004	− 3·2	+ 1·3	+·0003
02 02	71·5	87·5	66·0	51·6	65·0	−·0008	+·0004	− 0·5	+ 1·3	+·0003
07	72·7	86 6		51·0		−·0011	+·0004	+ 0·3	+ 1·6	+·0002
12	73·9	86·7		51·7		−·0011	+·0004	+ 1·0	+ 1·6	+·0002
17	73·6	87·7		50·0		−·0009	+·0004	+ 0·7	+ 1·4	+·0003
22	73·0	88·6		47·2		−·0007	+·0003	+ 0·2	+ 1·1	+·0002
27	71·0	88·4		43·6		−·0007	+·0002	− 1·3	+ 1·0	+·0001
32	68·7	87·5		42·8		−·0010	+·0001	− 3·1	+ 1·2	·0000
37	69·7	86·2		45·5		−·0013	+·0002	− 2·4	+ 1·6	·0000
42	71·0	84·9		44·6		−·0016	+·0002	− 1·6	+ 1·9	·0000
47	68·1	83·9		43·3		−·0018	+·0002	− 3·7	+ 2·2	·0000
52	61·5	82·6		35·4		−·0022	−·0001	− 8·5	+ 2·3	−·0003
57	51·8	89·2		28·6		−·0007	−·0004	−15·5	+ 0·2	−·0004
03 02	48·3	95·8	66·0	23·8	65·0	+·0008	−·0004	−18·0	− 1·3	−·0003
07	57·0	95·4		19·1		+·0008	−·0007	−11·9	− 1·5	−·0005
12	59·8	92·7		19·1		+·0002	−·0007	− 9·9	− 0·9	−·0006
17	60·7	91·1		21·3		−·0002	−·0006	− 9·3	− 0·3	−·0006
22	60·2	90·6		24·3		−·0003	−·0005	− 9·7	− 0·1	−·0005
27	61·2	90·6		22·2		−·0003	−·0006	− 9·0	− 0·2	−·0006
32	63·0	89·9		22·2		−·0004	−·0006	− 7·7	− 0·2	−·0006
37	66·0	88·6		34·6		−·0007	−·0002	− 5·5	+ 0·7	−·0003
42	66·1	87·5		35·8		−·0009	−·0001	− 5·5	+ 0·9	−·0002
47	65·1	86·6		37·2		−·0011	−·0001	− 6·3	+ 1·2	−·0002
52	63·2	86·0		39·3		−·0012	·0000	− 7·6	+ 1·3	−·0001
57	62·7	86·6		41·7		−·0011	+·0001	− 8·0	+ 1·3	·0000
04 02	64·9	88·2	66·0	42·7	65·0	−·0007	+·0001	− 6·4	+ 0·9	·0000
05 02	78·0	88·6	65·8	49·1	64·5	−·0006	+·0003	+ 2·4	+ 1·0	+·0002
06 02	70·9	90·1	65·8	41·5	64·2	−·0002	·0000	− 2·9	+ 0·2	·0000
07 02	74·8	88·0	65·5	45·3	63·8	−·0008	·0000	− 0·2	+ 0·9	−·0001
08 02	74·6	89·3	64·9	56·7	63·3	−·0006	+·0004	− 0·3	+ 1·1	+·0003
09 02	74·6	90·5	64·4	58·4	62·6	−·0004	+·0003	+ 0·1	+ 0·8	+·0002
10 02	72·6	91·0	63·8	59·3	62·3	−·0003	+·0003	− 0·8	+ 0·7	+·0002
11 02	71·3	91·9	63·5	61·4	61·7	+·0001	+·0003	− 0·6	+ 0·2	+·0003
12 02	70·9	89·1	63·0	72·9	61·4	−·0002	+·0006	+ 0·6	+ 0·9	+·0005
13 02	69·9	86·0	62·4	77·5	61·0	−·0005	+·0006	− 0·5	+ 1·2	+·0005
14 02	72·8	83·8	62·4	76·9	60·8	−·0008	+·0004	− 0·6	+ 1·3	+·0003
15 02	75·9	85·4	62·2	72·6	60·8	−·0007	+·0003	− 1·7	+ 1·1	+·0002
16 02	79·9	86·0	62·5	71·5	60·8	−·0008	+·0002	− 1·3	+ 1·1	+·0001
17 02	82·9	84·0	62·2	81·3	60·8	−·0017	+·0006	− 0·2	+ 2·5	+·0003
18 02	84·2	86·1	62·5	79·5	60·8	−·0015	+·0005	+ 1·1	+ 2·2	+·0003
19 02	82·2	85·9	62·5	81·0	61·0	−·0018	+·0006	+ 0·9	+ 2·6	+·0003
20 02	79·9	87·1	62·8	71·6	61·0	−·0014	+·0002	+ 0·8	+ 1·7	·0000
21 02	77·8	90·6	62·8	72·7	61·0	−·0006	+·0003	+ 1·1	+ 1·0	+·0002
22 02	76·5	89·4	62·5	73·9	61·0	−·0010	+·0004	+ 1·0	+ 1·5	+·0003
23 02	70·7	96·5	62·5	57·0	61·0	+·0005	−·0002	− 1·8	− 0·8	−·0001
7 00 02	73·4	91·5	62·5	73·0	61·0	−·0006	+·0004	+ 0·4	+ 1·1	+·0003
01 02	73·2	92·3	62·4	72·0	61·0	−·0004	+·0003	+ 0·7	+ 0·8	+·0002
02 02	73·2	—	—	—	—	—	—	+ 0·7	—	—
03 02	71·0	97·4	62·2	54·0	61·1	+·0003	−·0003	− 1·9	− 0·7	−·0002
42	68·0	90·6		65·4		−·0010	+·0001	− 4·1	+ 1·2	·0000
47	68·3	90·9		69·1		−·0009	+·0002	− 4·0	+ 1·2	+·0001
52	68·6	91·7		69·9		−·0007	+·0002	− 3·8	+ 1·0	+·0001
57	70·4	92·5		66·9		−·0005	+·0001	− 2·5	+ 0·7	·0000
04 02	71·6	92·4	62·6	66·8	60·9	−·0005	+·0001	− 1·6	+ 0·7	·0000
05 02	73·4	93·7	62·6	56·8	60·9	−·0001	−·0002	− 0·8	− 0·1	−·0002
06 02	79·1	88·3	62·5	72·8	60·8	−·0014	+·0004	+ 2·9	+ 1·9	+·0002
07	81·2	88·0		73·9		−·0015	+·0005	+ 4·4	+ 2·2	+·0003
12	83·0	88·5		72·6		−·0013	+·0004	+ 5·7	+ 1·8	+·0002
17	83·1	89·2		72·1		−·0012	+·0004	+ 5·8	+ 1·7	+·0002
22	83·3	90·8		68·5		−·0008	+·0003	+ 5·9	+ 1·2	+·0002
27	84·3	91·2		66·9		−·0007	+·0002	+ 6·6	+ 1·0	+·0001

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Van Diemen Island.

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OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
7 06 32	85·5	91·7		65·4		−·0006	+·0001	+ 7·5	+ 0·8	·0000
37	85·9	92·1		62·1		−·0005	·0000	+ 7·7	+ 0·5	−·0001
42	85·2	92·3		58·7		−·0005	−·0001	+ 7·2	+ 0·4	−·0001
47	83·2	92·2		56·8		−·0005	−·0002	+ 5·8	+ 0·3	−·0002
52	81·6	92·3		54·4		−·0005	−·0003	+ 4·6	+ 0·2	−·0003
57	79·9	92·7		53·2		−·0004	−·0003	+ 3·4	+ 0·1	−·0003
07 02	78·9	92·8	62·5	51·9	60·8	−·0003	−·0004	+ 2·7	− 0·1	−·0004
07	77·3	93·3		49·5		−·0002	−·0005	+ 1·6	− 0·3	−·0004
12	76·6	92·5		48·7		−·0004	−·0005	+ 1·1	− 0·1	−·0005
17	75·0	92·7		48·7		−·0004	−·0005	− 0·1	− 0·1	−·0005
22	73·9	93·0		49·0		−·0003	−·0005	− 0·9	− 0·2	−·0005
27	73·4	93·3		49·1		−·0002	−·0005	− 1·2	− 0·3	−·0005
32	72·8	93·8		48·3		−·0001	−·0005	− 1·6	− 0·4	−·0005
37	72·3	94·6		48·7		+·0001	−·0005	− 1·9	− 0·7	−·0004
42	72·4	—		—		—	—	− 1·9	—	—
08 02	73·2	93·9	62·4	47·7	60·8	−·0001	−·0005	− 1·3	− 0·4	−·0005
09 02	79·6	91·2	62·4	65·6	60·8	−·0007	+·0002	+ 3·6	+ 1·0	+·0001
10 02	74·9	89·6	62·4	65·2	60·8	−·0009	+·0002	+ 0·8	+ 1·2	+·0001
11 02	71·0	85·6	62·4	69·1	60·8	−·0016	+·0003	− 0·8	+ 2·0	+·0001
12 02	73·0	80·3	62·8	78·0	61·0	−·0023	+·0007	+ 2·0	+ 3·2	+·0004
13 02	72·7	84·1	63·0	67·8	61·3	−·0008	+·0003	+ 1·5	+ 1·2	+·0002
14 02	73·8	84·7	63·3	65·2	61·7	−·0004	+·0002	+ 0·1	+ 0·7	+·0001
15 02	76·6	80·7	63·8	72·5	62·2	−·0014	+·0006	− 1·2	+ 2·2	+·0004
16 02	82·0	80·2	64·2	79·7	62·6	−·0017	+·0009	+ 0·2	+ 2·8	+·0006
17 02	83·5	87·0	64·6	60·3	63·2	−·0005	+·0004	+ 0·2	+ 1·0	+·0003
18 02	79·5	87·1	65·3	59·5	63·7	−·0006	+·0004	− 2·2	+ 1·1	+·0003
19 02	81·1	90·4	65·8	57·7	64·3	·0000	+·0005	+ 0·1	+ 0·4	+·0004
20 02	79·7	87·6	66·0	67·1	64·8	+·0006	+·0008	+ 0·7	+ 0·2	+·0008
21 02	65·9	89·2	66·5	43·9	65·1	−·0001	+·0001	− 7·3	+ 0·2	+·0001
07	62·4	90·5		44·7		+·0002	+·0001	− 9·7	− 0·1	+·0001
12	62·0	—		—		—	—	− 9·9	—	—
17	61·7	91·6		48·5		+·0004	+·0003	−10·1	− 0·1	+·0003
22	62·2	90·9		53·1		+·0003	+·0005	− 9·7	+ 0·2	+·0001
27	64·3	90·6		54·8		+·0002	+·0006	− 8·1	+ 0·4	+·0002
32	67·6	—		—		—	—	− 5·7	—	—
37	70·3	89·6		59·2		·0000	+·0008	− 3·8	+ 0·9	+·0007
42	72·4	88·1		63·4		−·0003	+·0009	− 2·2	+ 1·3	+·0008
47	73·2	88·1		66·8		−·0003	+·0010	− 1·6	+ 1·4	+·0009
52	75·6	87·6		67·6		−·0004	+·0011	+ 0·2	+ 1·6	+·0009
57	76·4	87·0		68·2		−·0006	+·0011	+ 0·9	+ 1·8	+·0009
22 02	76·9	87·1	67·0	68·7	65·6	−·0005	+·0011	+ 1·3	+ 1·7	+·0009
23 02	76·8	90·6	67·3	56·6	66·1	+·0002	+·0008	+ 2·5	+ 0·7	+·0007

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For Mean Monthly Readings, *see* page 305.

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6 16 02	128·0	114·6	47·6	90·1	47·8	−·0004	−·0001	− 0·8	+ 0·2	−·0001
17 02	133·4	110·2	47·2	66·0	47·6	−·0008	−·0015	+ 3·7	− 0·6	−·0015
37	129·9	72·8		65·9		−·0040	−·0013	+ 2·6	+ 2·3	−·0015
42	134·4	84·0		63·5		−·0031	−·0014	+ 6·0	+ 1·4	−·0015
47	133·9	92·5		60·0		−·0023	−·0016	+ 5·8	+ 0·6	−·0016
52	130·9	98·2		60·0		−·0018	−·0016	+ 3·8	+ 0·2	−·0016
57	130·3	98·1		58·7		−·0019	−·0017	+ 3·5	+ 0·2	−·0017
18 02	134·0	98·3	47·2	55·3	48·0	−·0018	−·0018	+ 6·4	0·0	−·0018
07	136·4	95·0		54·9		−·0021	−·0019	+ 7·9	+ 0·2	−·0019
12	135·4	94·6		54·3		−·0021	−·0019	+ 7·0	+ 0·2	−·0019
17	137·3	90·7		55·9		−·0025	−·0018	+ 8·1	+ 0·6	−·0018
22	142·3	102·9		66·7		−·0014	−·0012	+11·5	+ 0·2	−·0012
27	142·6	113·0		72·4		−·0005	−·0008	+11·5	− 0·2	−·0008
32	142·1	112·4		69·4		−·0005	−·0010	+10·9	− 0·4	−·0010
37	142·8	110·4		70·1		−·0007	−·0010	+11·2	− 0·2	−·0010

1844.
Toronto.
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March 6—7.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
6 18 42	145·4	114·0		70·1		−·0003	−·0010	+12·8	− 0·6	−·0010
47	144·7	113·7		68·9		−·0004	−·0011	+12·1	− 0·6	−·0011
52	141·9	113·9		68·4		−·0003	−·0011	+10·0	− 0·7	−·0011
57	140·0	109·1		68·0		−·0007	−·0012	+ 8·3	− 0·4	−·0012
19 02	141·2	106·7	47·2	68·4	48·6	−·0009	−·0011	+ 9·1	− 0·2	−·0011
07	140·2	106·0		68·7		−·0010	−·0011	+ 8·3	− 0·1	−·0011
12	140·6	106·1		71·3		−·0010	−·0010	+ 8·7	0·0	−·0010
17	141·9	108·2		73·6		−·0008	−·0008	+ 9·7	0·0	−·0008
22	140·7	110·0		76·4		−·0006	−·0006	+ 8·8	0·0	−·0006
27	139·1	110·9		77·0		−·0006	−·0006	+ 7·7	0·0	−·0006
32	137·9	111·9		77·3		−·0005	−·0006	+ 6·9	− 0·1	−·0006
37	137·1	113·9		75·0		−·0003	−·0007	+ 6·4	− 0·3	−·0007
42	135·8	114·6		78·8		−·0003	−·0005	+ 5·4	− 0·2	−·0005
47	133·9	116·3		80·3		−·0001	−·0004	+ 4·1	− 0·2	−·0004
52	132·9	115·0		81·5		−·0002	−·0003	+ 3·5	− 0·1	−·0003
57	131·3	110·2		80·6		−·0007	−·0004	+ 2·3	+ 0·2	−·0004
20 02	130·2	112·2	47·3	79·9	48·8	−·0005	−·0004	+ 1·5	+ 0·1	−·0004
07	128·3	109·2		80·8		−·0008	−·0004	+ 0·4	+ 0·3	−·0004
12	124·2	111·0		83·5		−·0006	−·0002	− 2·5	+ 0·3	−·0002
17	122·0	108·6		83·0		−·0009	−·0003	− 4·0	+ 0·5	−·0003
22	120·2	105·7		82.1		−·0011	−·0003	− 5·1	+ 0·7	−·0003
27	119·8	104·4		79·3		−·0013	−·0005	− 5·2	+ 0·7	−·0005
32	120·9	101·5		78·0		−·0015	−·0005	− 4·3	+ 0·9	−·0006
37	123·4	101·0		78·2		−·0016	−·0005	− 2·4	+ 0·9	−·0006
42	124·8	102·9		78·2		−·0014	−·0005	− 1·2	+ 0·8	−·0006
21 02	123·1	115·0	47·0	84·5	48·4	−·0005	−·0001	− 1·9	+ 0·3	−·0001
22 02	127·7	116·5	46·8	85·0	47·6	−·0005	−·0002	− 0·4	+ 0·2	−·0002
23 02	127·9	116·5	46·0	91·8	46·9	−·0006	+·0001	− 0·3	+ 0·6	+·0001
7 00 02	127·0	126·5	46·0	91·8	46·9	+·0002	·0000	− 0·6	− 0·2	·0000
01 02	131·3	123·5	45·6	91·8	46·6	−·0002	·0000	+ 1·1	+ 0·2	·0000
02 02	128·1	115·5	46·0	89·8	46·9	−·0004	−·0002	− 1·5	+ 0·2	−·0002
03 02	124·5	100·3	46·5	92·1	47·0	−·0014	·0000	− 3·9	+ 1·2	−·0001
04 02	120·6	96·0	47·0	89·6	47·4	−·0015	−·0002	− 4·8	+ 1·1	−·0003
05 02	122·4	103·6	48·0	90·1	47·9	−·0005	−·0001	− 1·1	+ 0·3	−·0001
06 02	119·7	89·0	48·5	91·1	48·5	−·0016	−·0001	− 0·6	+ 1·3	−·0002
07 02	120·0	95·8	49·4	95·2	48·8	−·0010	·0000	+ 0·4	+ 0·9	−·0001
08 02	114·9	105·3	50·0	90·4	49·4	−·0006	−·0004	− 3·3	+ 0·2	−·0004
09 02	120·8	110·6	50·6	95·1	49·5	−·0006	−·0001	0·0	+ 0·4	−·0001
10 02	125·4	118·8	50·9	93·0	49·8	+·0002	−·0003	+ 2·6	− 0·4	−·0003
11 02	135·2	109·2	51·3	93·5	50·1	−·0005	−·0004	+ 8·1	+ 0·1	−·0004
12 02	129·5	94·6	51·5	91·9	50·5	−·0016	−·0005	+ 3·9	+ 0·9	−·0006
13 02	130·4	103·6	51·5	93·2	50·8	−·0007	−·0005	+ 2·9	+ 0·2	−·0005
14 02	129·5	110·3	51·5	84·8	50·8	·0000	−·0003	+ 0·3	− 0·3	−·0003
15 02	147·0	94·3	51·0	85·9	50·5	−·0013	−·0002	+13·3	+ 0·9	−·0003
07	149·6	93·1		85·1		−·0014	−·0002	+15·0	+ 1·0	−·0003
12	151·7	96·8		84·5		−·0011	−·0003	+16·6	+ 0·7	−·0003
17	154·3	104·4		79·9		−·0005	−·0005	+18·4	0·0	−·0005
22	146·1	104·8		78·8		−·0004	−·0006	+12·4	− 0·2	−·0006
27	142·7	105·7		78·7		−·0004	−·0006	+10·0	− 0·2	−·0006
32	137·6	103·4		78·3		−·0006	−·0006	+ 6·3	0·0	−·0006
37	135·0	98·3		77·2		−·0010	−·0007	+ 4·3	+ 0·2	−·0007
42	138·3	105·3		81·2		−·0004	−·0004	+ 6·7	0·0	−·0004
47	146·6	106·5		83·2		−·0003	−·0003	+12·6	0·0	−·0003
52	153·8	108·9		82·8		−·0001	−·0003	+17·8	− 0·2	−·0003
57	157·8	115·7		77·8		+·0005	−·0006	+20·6	− 0·9	−·0005
16 02	148·1	114·8	50·6	77·8	50·6	+·0004	−·0006	+13·6	− 0·9	−·0005
07	146·0	114·1		75·2		+·0004	−·0008	+12·1	− 1·0	−·0007
12	140·2	111·6		74·1		+·0001	−·0009	+ 8·0	− 0·9	−·0008
17	135·0	113·2		74·1		+·0003	−·0008	+ 4·3	− 0·9	−·0007
22	130·0	110·2		74·1		·0000	−·0008	+ 0·8	− 0·7	−·0008
27	125·3	102·7		78·2		−·0006	−·0006	− 2·6	0·0	−·0006
32	130·6	99·2		78·2		−·0009	−·0006	+ 1·3	+ 0·2	−·0006
37	135·6	99·5		77·6		−·0009	−·0006	+ 5·0	+ 0·2	−·0006
17 02	129·5	98·8	50·2	82·2	50·5	−·0010	−·0003	+ 0·9	+ 0·8	−·0004

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For Mean Monthly Readings, *see* page 303.

VAN DIEMEN ISLAND, 1844. MARCH 18, 19, 28, 29, and 30.

*OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
						$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
18 22 02	76·6	90·2	69·0	48·1	67·0	+·0006	+·0007	+ 1·1	+ 0·1	+·0007
23 02	63·8	83·5	69·0	57·8	67·2	−·0010	+·0011	− 6·8	+ 2·3	+·0009
07	63·8	83·0		59·0		−·0011	+·0012	− 4·9	+ 2·5	+·0009
12	66·3	82·2		61·1		−·0013	+·0012	− 4·2	+ 2·7	+·0009
17	67·3	81·4		63·9		−·0015	+·0013	− 3·7	+ 3·0	+·0010
22	68·0	81·9		65·5		−·0013	+·0014	− 3·5	+ 2·9	+·0011
27	68·2	83·0		66·0		−·0011	+·0014	− 2·6	+ 2·7	+·0011
32	69·5	84·2		64·9		−·0008	+·0014	− 2·0	+ 2·4	+·0012
37	70·3	35·9		63·3		−·0004	+·0013	− 0·8	+ 1·8	+·0011
42	71·9	87·0		61·6		−·0002	+·0013	− 0·5	+ 1·6	+·0011
47	72·3	87·6		59·3		·0000	+·0012	− 0·2	+ 1·3	+·0011
52	72·7	87·7		58·3		·0000	+·0012	− 0·1	+ 1·3	+·0011
57	72·8	—		—		—	—	+ 0·1	—	—
19 00 02	73·1	89·1	69·0	45·4	67·6	+·0003	+·0007	+ 0·1	+ 0·4	+·0007
28 21 02	79·3	99·0	53·0	106·3	51·0	−·0010	−·0006	+ 2·2	+ 0·4	−·0006
22 02	65·8	99·6	52·8	91·0	51·0	−·0009	−·0008	− 6·6	+ 0·1	−·0008
07	64·7	97·7		90·8		−·0013	−·0008	− 7·2	+ 0·5	−·0009
12	63·3	97·1		89·2		−·0015	−·0012	− 8·2	+ 0·3	−·0012
17	62·5	97·2		92·8		−·0015	−·0011	− 8·6	+ 0·4	−·0011
22	64·8	97·5		93·8		−·0014	−·0010	− 6·9	+ 0·4	−·0010
27	65·5	97·0		95·1		−·0016	−·0009	− 6·3	+ 0·8	−·0010
32	64·8	98·1		95·5		−·0013	−·0009	− 6·7	+ 0·4	−·0009
37	66·0	98·4		96·0		−·0013	−·0009	− 5·7	+ 0·4	−·0009
42	67·6	98·0		96·6		−·0013	−·0009	− 4·5	+ 0·4	−·0009
47	68·5	97·6		98·3		−·0015	−·0008	− 3·7	+ 0·8	−·0009
52	69·9	97·1		99·9		−·0016	−·0008	− 2·6	+ 0·9	−·0009
57	70·2	95·8		101·7		−·0019	−·0007	− 2·3	+ 1·3	−·0008
23 02	69·7	96·0	52·8	102·8	51·0	−·0019	−·0007	− 2·6	+ 1·3	−·0008
29 00 02	73·2	99·2	53·0	102·0	51·4	−·0010	−·0006	+ 0·2	+ 0·4	−·0006
01 02	73·7	100·9	53·0	98·5	51·4	−·0006	−·0008	+ 1·1	− 0·2	−·0008
02 02	72·2	102·8	52·8	98·5	51·4	−·0003	−·0008	0·0	− 0·4	−·0007
03 02	74·2	102·2	53·0	93·5	51·4	−·0007	−·0009	+ 0·4	− 0·2	−·0009
04 02	74·8	101·7	53·0	97·3	51·2	−·0006	−·0008	+ 0·6	− 0·2	−·0008
05 02	76·2	102·9	52·2	99·7	51·0	−·0005	−·0008	+ 1·1	− 0·3	−·0008
06 02	75·0	103·2	52·0	97·9	51·0	−·0004	−·0008	0·0	− 0·4	−·0008
07 02	75·1	103·2	52·0	95·4	51·0	−·0004	−·0009	0·0	− 0·4	−·0008
08 02	74·9	104·4	52·2	96·9	50·8	·0000	−·0008	− 0·1	− 0·9	−·0007
09 02	72·8	104·1	52·2	93·9	50·7	−·0001	−·0010	− 1·2	− 1·0	−·0009
10 02	79·2	99·8	52·2	93·6	50·8	−·0009	−·0010	+ 3·9	− 0·1	−·0010
11 02	87·5	99·7	52·3	111·5	51·1	−·0007	−·0002	+10·9	+ 0·5	−·0003
07	86·4	100·4		108·1		−·0005	−·0003	+10·3	+ 0·2	−·0003
12	84·4	101·0		109·7		−·0003	−·0003	+ 9·0	0·0	−·0003
17	82·6	101·0		100·9		−·0003	−·0006	+ 7·8	− 0·3	−·0006
22	81·5	—		—		—	—	+ 7·2	—	—
27	81·7	100·6		100·0		−·0003	−·0006	+ 7·4	− 0·3	−·0006
32	82·0	101·1		96·3		−·0001	−·0007	+ 7·7	− 0·7	−·0006
37	81·5	100·1		97·4		−·0003	−·0007	+ 7·5	− 0·4	−·0007
42	80·5	99·1		98·5		−·0005	−·0006	+ 6·9	− 0·1	−·0006
47	79·8	99·0		98·8		−·0004	−·0006	+ 6·5	− 0·2	−·0006
52	79·8	98·3		99·5		−·0006	−·0006	+ 6·7	0·0	−·0006
57	79·8	98·1		99·2		−·0006	−·0006	+ 6·8	0·0	−·0006
12 02	79·9	97·4	52·8	100·4	51·6	−·0007	−·0005	+ 7·0	+ 0·2	−·0005
07	79·0	96·6		101·0		−·0008	−·0005	+ 6·3	+ 0·3	−·0005
12	78·3	95·2		101·9		−·0011	−·0005	+ 5·8	+ 0·7	−·0006
17	77·4	94·2		102·9		−·0012	−·0004	+ 5·1	+ 0·9	−·0005
22	77·8	93·6		104·7		−·0013	−·0004	+ 5·3	+ 1·0	−·0005
27	77·3	92·9		105·6		−·0014	−·0004	+ 5·0	+ 1·1	−·0005

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OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
29 12 32	76·7	91·7		105·5		−·0016	−·0004	+ 4·5	+ 1·3	−·0005
37	76·0	90·5		106·1		−·0019	−·0003	+ 4·0	+ 1·7	−·0005
42	75·0	89·7		107·5		−·0020	−·0003	+ 3·3	+ 1·8	−·0005
47	75·1	89·0		109·0		−·0021	−·0002	+ 3·3	+ 2·0	−·0004
52	75·4	88·3		109·9		−·0022	−·0002	+ 3·5	+ 2·2	−·0004
57	75·4	—		—		—	—	+ 3·4	—	—
13 02	75·0	86·6	53·2	110·0	52·1	−·0025	−·0002	+ 3·1	+ 2·5	−·0005
14 02	77·8	85·7	54·0	104·6	52·8	−·0023	−·0003	+ 2·9	+ 2·2	−·0005
15 02	79·4	85·5	55·0	99·4	53·5	−·0023	−·0003	+ 0·8	+ 2·2	−·0005
16 02	88·9	82·9	55·6	91·3	53·9	−·0031	−·0005	+ 5·1	+ 2·8	−·0008
17 02	85·1	89·7	56·2	89·7	54·6	−·0018	−·0004	+ 1·4	+ 1·5	−·0005
18 02	90·5	81·5	56·5	126·2	55·4	−·0039	+·0010	+ 5·5	+ 5·3	+·0005
12	84·8	77·4		119·8		−·0048	+·0008	+ 1·7	+ 6·0	+·0002
17	79·8	80·4		118·7		−·0042	+·0008	− 1·7	+ 5·4	+·0003
22	79·8	83·1		116·1		−·0035	+·0007	− 1·6	+ 4·5	+·0002
27	80·8	83·3		113·0		−·0035	+·0006	− 0·8	+ 4·4	+·0001
32	81·7	84·0		111·2		−·0033	+·0002	− 0·1	+ 3·8	−·0002
37	82·3	85·8		107·9		−·0029	+·0005	+ 0·5	+ 3·7	+·0001
42	82·5	86·0		105·7		−·0029	+·0004	+ 0·7	+ 3·6	·0000
47	83·5	86·1		104·9		−·0029	+·0004	+ 1·6	+ 3·6	·0000
52	84·4	85·3		103·3		−·0030	+·0004	+ 2·3	+ 3·7	·0000
57	82·9	87·4		101·4		−·0026	+·0003	+ 1·4	+ 3·1	·0000
19 02	81·8	90·3	57·4	96·1	56·2	−·0019	+·0001	+ 0·6	+ 2·2	−·0001
07	82·6	90·2		94·3		−·0019	+·0001	+ 1·4	+ 2·2	−·0001
12	83·0	89·6		93·3		−·0021	·0000	+ 1·8	+ 2·3	−·0002
17	83·8	90·4		93·5		−·0019	+·0001	+ 2·4	+ 2·2	−·0001
22	84·4	90·2		94·1		−·0019	+·0001	+ 3·0	+ 2·2	−·0001
27	85·0	89·8		93·6		−·0020	+·0001	+ 3·6	+ 2·3	−·0001
32	84·9	—		—		—	—	+ 3·6	—	—
20 02	85·1	92·5	58·0	92·3	57·0	−·0013	+·0001	+ 4·5	+ 1·5	·0000
07	86·5	89·1		95·3		−·0021	+·0002	+ 5·7	+ 2·5	−·0001
12	85·6	86·1		96·9		−·0028	+·0003	+ 5·2	+ 3·3	·0000
17	82·8	84·7		100·8		−·0030	+·0004	+ 3·3	+ 3·7	·0000
22	82·2	84·0		103·9		−·0032	+·0006	+ 3·1	+ 4·1	+·0002
27	79·9	83·4		102·6		−·0033	+·0005	+ 1·6	+ 4·1	+·0001
32	76·0	86·0		101·7		−·0027	+·0005	− 1·1	+ 3·5	+·0002
37	76·8	86·9		97·5		−·0025	+·0004	− 0·3	+ 3·1	+·0001
42	76·3	85·2		95·8		−·0029	+·0003	− 0·5	+ 3·5	·0000
47	73·8	85·9		93·0		−·0027	+·0003	− 2·1	+ 3·2	·0000
52	71·5	84·3		93·5		−·0030	+·0003	− 3·6	+ 3·6	−·0001
57	71·0	85·1		95·0		−·0028	+·0004	− 3·8	+ 3·5	+·0001
21 02	71·8	84·4	58·8	95·6	57·6	−·0030	+·0004	− 3·1	+ 3·7	·0000
07	72·4	83·6		95·6		−·0032	+·0004	− 2·6	+ 3·9	·0000
12	72·1	83·8		95·6		−·0031	+·0004	− 2·8	+ 3·8	·0000
17	69·7	86·2		92·4		−·0026	+·0003	− 4·4	+ 3·1	·0000
22	69·8	86·9		88·3		−·0024	+·0002	− 4·4	+ 2·8	−·0001
27	67·0	86·8		84·7		−·0024	+·0001	− 6·2	+ 2·7	−·0002
32	65·8	86·4		83·5		−·0025	+·0001	− 7·0	+ 2·8	−·0002
37	65·2	85·7		84·5		−·0027	+·0001	− 7·4	+ 3·0	−·0002
42	65·5	83·4		87·0		−·0032	+·0002	− 7·1	+ 3·7	−·0002
47	66·2	80·9		91·6		−·0038	+·0004	− 6·5	+ 4·5	−·0001
52	65·6	80·5		94·3		−·0039	+·0005	− 6·9	+ 4·7	·0000
57	64·1	80·9		95·0		−·0038	+·0006	− 7·9	+ 4·7	+·0001
22 02	63·9	—	59·0	—	58·4	—	—	− 8·0	—	—
07	60·9	83·9		87·2		−·0031	+·0003	− 9·9	+ 3·7	−·0001
12	57·0	90·1		89·6		−·0017	+·0004	−12·6	+ 2·3	+·0002
17	69·6	88·0		87·5		−·0022	+·0003	− 3·6	+ 2·7	·0000
22	69·6	87·2		86·8		−·0024	+·0003	− 3·3	+ 2·9	·0000
27	71·2	85·5		87·5		−·0027	+·0004	− 2·2	+ 3·3	+·0001
32	70·0	84·7		87·9		−·0029	+·0004	− 3·0	+ 3·6	·0000
37	68·8	82·9		88·3		−·0033	+·0004	− 3·7	+ 4·0	·0000
42	67·4	82·5		89·6		−·0034	+·0005	− 4·6	+ 4·2	+·0001
47	66·2	83·3		90·3		−·0033	+·0005	− 5·3	+ 4·1	+·0001
52	66·2	85·0		88·4		−·0029	+·0004	− 5·3	+ 3·6	·0000
57	61·8	—		—		—	—	− 8·2	—	—

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March 29—30.

OBSERVATIONS OF THE MAGNETOMETERS. The Declination was observed 2m. before, and the V. F. 1m. after the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
29 23 02	62·0	91·9	59·4	75·1	58·8	−·0013	·0000	− 8·0	+ 1·4	−·0001
07	64·2	94·3		61·9		−·0007	−·0005	− 6·5	+ 0·2	− 0005
12	58·2	99·8		55·5		+·0006	−·0007	−10·7	− 1·4	−·0006
17	61·9	98·8		47·4		+·0003	−·0010	− 8·0	− 1·4	−·0009
22	58·7	99·9		47·4		+·0006	−·0010	−10·3	− 1·7	−·0008
27	66·4	99·2		52·0		+·0005	−·0008	− 4·8	− 1·4	−·0007
32	74·0	92·2		57·6		−·0011	−·0006	+ 0·6	+ 0·5	−·0007
37	72·4	86·2		60·5		−·0025	−·0005	− 0·5	+ 2·2	−·0007
42	65·1	86·6		63·7		−·0024	−·0004	− 5·6	+ 2·2	−·0006
47	61·1	89·7		65·3		−·0017	−·0003	− 8·5	+ 1·5	−·0004
52	61·7	91·8		65·6		−·0012	−·0004	− 8·0	+ 0·9	−·0005
57	65·5	89·7		64·3		−·0016	−·0004	− 5·3	+ 1·3	−·0005
30 00 02	61·4	86·2	59·8	64·0	59·0	−·0030	−·0004	− 8·2	+ 2·8	−·0007
07	57·2	86·7		64·4		−·0023	−·0004	−11·1	+ 2·0	−·0006
12	56·0	86·3		64·4		−·0024	−·0004	−11·9	+ 2·2	−·0006
17	54·8	85·0		67·3		−·0027	−·0003	−12·7	+ 2·6	−·0006
22	56·0	84·7		70·1		−·0028	−·0002	−11·9	+ 2·8	−·0005
27	56·8	84·6		72·7		−·0028	−·0001	−11·2	+ 2·9	−·0004
32	57·1	84·5		73·4		−·0028	·0000	−11·0	+ 3·0	−·0003
37	56·9	86·4		74·9		−·0024	·0000	−11·1	+ 2·6	−·0003
42	59·3	—		—		—	—	− 9·3	—	—
47	61·2	85·8		73·9		−·0025	·0000	− 8·0	+ 2·7	−·0003
52	60·7	85·3		73·5		−·0026	·0000	− 8·2	+ 2·8	−·0003
57	58·8	84·6		73·0		−·0027	·0000	− 9·6	+ 2·9	−·0003
01 02	57·8	83·4	60·0	75·7	59·4	−·0030	+·0001	−10·2	+ 3·3	−·0002
07	58·9	83·0		76·6		−·0031	+·0001	− 9·4	+ 3·5	−·0002
12	59·3	83·6		79·7		−·0030	+·0002	− 9·2	+ 3·5	−·0001
17	62·3	84·7		79·0		−·0028	+·0002	− 7·0	+ 3·2	−·0001
22	63·4	85·3		76·9		−·0026	+·0001	− 6·3	+ 2·9	− 0002
27	64·1	87·0		78·0		−·0022	+ 0002	− 5·8	+ 2·6	−·0001
32	68·4	94·7		77·6		−·0005	+·0002	− 2·7	+ 0·8	+·0001
37	77·0	94·6		71·4		−·0005	−·0001	+ 3·4	+ 0·4	− 0001
42	80·2	88·9		63·7		−·0018	−·0004	+ 5·7	+ 1·5	−·0005
47	69·1	86·7		58·2		−·0024	−·0005	− 2·2	+ 2·0	−·0007
52	62·0	91·2		56·7		−·0013	−·0006	− 7·2	+ 0·8	−·0007
57	64·7	91·9		58·0		−·0012	−·0005	− 5·3	+ 0·8	−·0006
02 02	67·5	90·5	60·0	57·6	59·4	−·0015	−·0005	− 3·3	+ 1·1	−·0006
07	65·3	90·5		57·6		−·0015	−·0005	− 5·0	+ 1·1	−·0006
12	65·8	91·3		58·0		−·0014	−·0005	− 4·8	+ 1·0	−·0006
17	67·8	93·9		60·0		−·0008	−·0004	− 3·4	+ 0·4	−·0004
22	73·5	91·5		61·4		−·0014	−·0004	+ 0·6	+ 1·1	−·0005
27	73·4	89·0		59·8		−·0020	−·0004	+ 0·4	+ 1·7	−·0006
32	70·2	87·2		62·5		−·0024	−·0003	− 2·0	+ 2·3	−·0005
37	67·9	85·7		63·0		−·0028	−·0003	− 3·7	+ 2·7	−·0006
42	64·4	87·0		64·2		−·0025	−·0003	− 6·3	+ 2·4	−·0005
47	64·3	87·6		64·2		−·0024	−·0003	− 6·4	+ 2·3	−·0005
52	65·2	91·1		67·3		−·0016	−·0002	− 5·9	+ 1·5	−·0003
57	66·7	92·8		59·6		−·0012	−·0004	− 4·9	+ 0·9	−·0005
03 02	72·2	—	60·0	—	59·4	—	—	− 1·1	—	—
07	76·8	95·9		60·8		−·0005	−·0005	+ 2·2	0·0	−·0005
12	79·8	95·2		60·6		−·0006	−·0005	+ 4·3	− 0·1	−·0005
17	83·5	99·0		60·5		−·0002	−·0005	+ 6·9	− 0·8	−·0004
22	89·8	100·5		57·6		−·0006	−·0006	+11·4	− 1·3	−·0005
27	91·9	98·4		57·3		−·0001	−·0006	+12·9	− 0·8	−·0005
32	89·3	95·5		56·8		−·0005	−·0006	+11·0	− 0·1	−·0004
37	83·8	93·1		56·6		−·0010	−·0006	+ 7·1	+ 0·4	−·0006
42	80·2	92·8		56·6		−·0011	−·0006	+ 4·5	+ 0·5	−·0007
47	78·2	93·7		56·8		−·0009	−·0006	+ 3·1	+ 0·3	−·0006
52	77·5	93·8		56·8		−·0008	−·0006	+ 2·6	+ 0·2	−·0006
57	77·0	92·6		56·5		−·0011	−·0006	+ 2·2	+ 0·5	−·0007
04 02	75·3	93·3	60·0	56·6	59·4	−·0009	−·0006	+ 1·0	+ 0·3	−·0006
07	75·9	93·4		57·1		−·0009	−·0006	+ 1·4	+ 0·3	−·0006
12	75·9	92·8		56·9		−·0010	−·0006	+ 1·4	+ 0·4	−·0006
17	75·5	—		—		—	—	+ 1·0	—	—

CAPE OF GOOD HOPE, 1844. MARCH 29—30.

MEAN MONTHLY READINGS OF THE MAGNETOMETERS.

Mean Göttingen Time.	Declination.	H. F. at 70°·0.	V. F. at 69°·9.	Mean Göttingen Time.	Declination.	H. F. at 70°·0.	V. F. at 69°·9.
Hours.	Sc. Div.	Sc. Div.	Sc. Div.	Hours.	Sc. Div.	Sc. Div.	Sc. Div.
00	51·7	42·2	18·5	12	52·1	42·9	23·7
01	53·3	42·1	19·0	13	52·2	43·2	23·4
02	54·1	42·2	20·3	14	52·4	43·3	23·2
03	53·7	42·3	22·4	15	52·2	43·3	23·3
04	52·9	42·7	23·5	16	52·2	43·3	23·4
05	52·1	42·9	24·0	17	52·2	43·4	23·1
06	51·7	42·7	24·2	18	51·8	43·5	24·0
07	51·8	42·3	24·1	19	49·4	44·3	25·6
08	52·1	42·3	23·6	20	45·9	44·4	27·3
09	52·2	42·7	23·4	21	44·5	43·6	25·4
10	52·0	42·5	24·0	22	46·5	42·7	21·8
11	52·2	43·0	23·5	23	49·4	42·1	19·5

Coefficients (A), Approximate Absolute Values (B.)

(A)
- Declin. $a = 0'\cdot751$
- H. F. $k = \cdot00035$, $q = \cdot00029$
- V. F. $k = \cdot00017$, $q = \cdot00005$

(B) Approx.
- $\psi = 29°\,05'$
- X = 4·46
- Y = 6·00
- $\theta = -53°\,15'$
- $\phi = 7'\cdot50$

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm.	Sc. Div.	Therm.	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
29 07 02	52·6	41·8	71·9	20·2	71·5	+·0008	−·0007	+ 0·6	− 2·5	−·0002
08 02	53·2	42·4	71·9	19·4	71·4	+·0006	−·0007	+ 0·8	− 2·1	−·0002
09 02	52·8	40·8	71·9	21·2	71·6	+·0001	−·0003	+ 0·5	− 0·3	−·0002
10 02	50·4	38·6	71·8	26·3	71·7	−·0009	+·0005	− 1·2	+ 2·3	·0000
11 02	46·1	38·0	71·8	28·2	71·6	−·0013	+·0009	− 4·6	+ 3·6	+·0001
32	46·0	36·8		28·3		−·0017	+·0009	− 4·6	+ 4·3	·0000
12 02	45·3	36·5	71·7	27·8	71·6	−·0018	+·0008	− 5·1	+ 4·3	−·0001
32	44·9	38·4		25·8		−·0012	+·0005	− 5·5	+ 2·8	−·0001
13 02	43·8	39·6	71·8	24·8	71·7	−·0008	+·0003	− 6·3	+ 1·8	−·0001
32	48·2	40·7		19·6		−·0004	−·0005	− 3·1	− 0·2	−·0005
14 02	53·3	40·0	71·6	16·5	71·4	−·0007	−·0011	+ 0·7	− 0·7	−·0010
15 02	53·0	40·9	71·5	18·5	71·2	−·0004	−·0008	+ 0·6	− 0·7	−·0007
32	55·0	41·1		17·7		−·0004	−·0009	+ 2·1	− 0·8	−·0007
16 02	52·9	42·5	71·3	18·1	71·1	+·0001	−·0008	+ 0·5	− 1·5	−·0005
32	50·1	40·1		16·3		−·0008	−·0011	− 1·6	− 0·5	−·0010
17 02	50·0	41·0	71·1	16·1	70·9	−·0005	−·0011	− 1·7	− 1·0	−·0009
32	52·6	41·5		18·9		−·0004	−·0008	+ 0·5	− 0·7	−·0007
18 02	57·2	39·4	71·0	18·1	71·0	−·0012	−·0010	+ 4·1	+ 0·3	−·0011
32	58·8	42·5		16·3		−·0002	−·0014	+ 6·2	− 2·0	−·0010
19 02	54·0	43·0	70·9	20·0	70·7	−·0002	−·0009	+ 3·5	− 1·2	−·0007
32	51·7	43·0		20·9		−·0003	−·0009	+ 3·1	− 1·0	−·0007
20 02	50·2	42·0	70·6	22·2	70·6	−·0007	−·0008	+ 3·2	− 0·2	−·0008
21 02	53·0	37·5	70·7	21·8	70·8	−·0012	−·0006	+ 6·4	+ 1·0	−·0008
22 02	54·7	37·7	70·8	21·6	70·7	−·0015	·0000	+ 6·2	+ 2·5	−·0005
32	53·5	37·6		21·1		−·0014	+·0001	+ 4·1	+ 2·5	−·0004
23 02	51·5	36·9	70·9	21·5	71·1	−·0016	+·0004	+ 1·6	+ 3·3	−·0003
32	51·1	33·3		23·7		−·0028	+·0009	+ 0·4	+ 6·1	−·0004
30 00 02	52·5	33·7	71·1	22·1	71·2	−·0027	+·0007	+ 0·6	+ 5·6	−·0005
32	52·0	33·4		23·8		−·0027	+·0009	− 0·4	+ 5·9	−·0004
01 02	53·2	34·7	71·3	21·6	71·2	−·0022	+·0005	− 0·1	+ 4·4	−·0005
32	51·8	33·3		23·6		−·0028	+·0007	− 1·4	+ 5·8	−·0006
02 02	50·9	34·9	71·4	23·6	71·2	−·0022	+·0006	− 2·4	+ 4·6	−·0004
32	51·0	34·9		23·0		−·0022	+·0003	− 2·2	+ 4·1	−·0006
03 02	50·1	34·6	71·4	23·4	71·2	−·0023	+·0002	− 2·7	+ 4·1	−·0007
04 02	49·6	37·7	71·5	19·5	71·5	−·0013	−·0006	− 2·5	+ 1·2	−·0008
32	51·0	37·6		19·5		−·0014	−·0007	− 1·1	+ 1·2	−·0009
05 02	51·0	36·9	71·5	19·2	71·5	−·0017	−·0007	− 0·8	+ 1·7	−·0011
32	50·1	35·2		21·6		−·0022	−·0004	− 1·4	+ 3·0	−·0010
06 02	43·0	36·0	71·6	27·9	71·4	−·0019	+·0007	− 6·5	+ 4·3	−·0002
32	46·0	37·5		22·5		−·0013	−·0002	− 4·4	+ 1·8	−·0006
07 02	48·0	37·1	71·4	20·4	71·3	−·0014	−·0006	− 2·9	+ 1·3	−·0009

1844. Cape of Good Hope.

March 30.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours. $\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
30 07 32	49·0	36·1		21·6		−·0018	−·0003	− 2·3	+ 2·5	−·0008
08 02	50·0	38·0	71·3	20·3	71·0	−·0012	−·0005	− 1·6	+ 1·2	−·0007
32	49·0	39·1		21·5		−·0009	−·0003	− 2·4	+ 1·0	−·0005
09 02	49·2	40·0	71·0	18·2	70·8	−·0007	−·0008	− 2·3	− 0·2	−·0008
32	49·3	37·7		21·5		−·0015	−·0003	− 2·1	+ 2·0	−·0007
10 02	50·1	36·7	70·7	22·3	70·5	−·0018	−·0003	− 1·4	+ 2·5	−·0008
32	55·4	40·4		15·9		−·0007	−·0013	+ 2·5	− 1·0	−·0011
11 02	52·7	40·3	70·4	18·3	70·4	−·0008	−·0009	+ 0·4	− 1·2	−·0009

1844. Toronto.

March 29.

For Mean Monthly Readings, *see* page 305.

TORONTO, 1844. MARCH 29—30.

29 12 02	110·3	117·9	47·0	117·4	47·4	−·0007	+·0014	−10·0	+ 1·8	+·0013
13 02	126·3	122·5	46·6	132·1	47·4	−·0004	+·0023	− 0·1	+ 2·3	+·0021
07	122·0	130·5		141·0		+·0004	+·0029	− 3·3	+ 2·1	+·0027
12	127·2	151·2		162·5		+·0022	+·0042	+ 0·2	+ 1·7	+·0041
17	126·4	156·3		158·2		+·0027	+·0040	− 0·5	+ 1·1	+·0039
22	136·7	122·6		118·9		−·0002	+·0016	+ 6·8	+ 1·5	+·0015
27	135·6	108·7		114·1		−·0014	+·0013	+ 5·9	+ 2·3	+·0011
32	133·0	102·3		108·7		−·0020	+·0010	+ 3·7	+ 2·5	+·0008
37	140·3	119·9		96·3		−·0004	+·0002	+ 8·9	+ 0·5	+·0002
42	116·0	83·9		108·6		−·0035	+·0010	− 8·8	+ 3·8	+·0007
47	136·3	121·9		122·0		−·0002	+·0019	+ 5·6	+ 1·8	+·0018
52	173·1	146·7		101·5		+·0020	+·0006	+32·0	+ 1·2	+·0007
57	175·1	107·7		93·5		−·0014	+·0001	+33·2	+ 1·3	·0000
14 02	172·1	113·4	47·4	86·1	49·1	−·0008	−·0003	+31·0	+ 0·4	−·0003
07	159·6	111·0		86·1		−·0010	−·0003	+22·0	+ 0·6	−·0003
12	155·8	116·7		83·0		−·0005	−·0005	+19·3	0·0	−·0005
17	149·1	107·8		76·2		−·0013	−·0009	+14·5	+ 0·3	−·0009
22	140·2	103·5		73·8		−·0017	−·0011	+ 8·1	+ 0·5	−·0011
27	136·9	100·6		75·7		−·0019	−·0009	+ 5·8	+ 0·9	−·0010
32	139·1	103·0		73·7		−·0017	−·0011	+ 7·3	+ 0·5	−·0011
37	138·6	110·9		76·0		−·0010	−·0009	+ 7·1	+ 0·1	−·0009
42	135·1	128·9		75·1		+·0006	−·0010	+ 4·5	− 1·4	−·0009
47	124·7	109·5		76·4		−·0011	−·0009	− 2·9	+ 0·2	−·0009
52	127·1	102·0		79·4		−·0018	−·0007	− 1·1	+ 0·9	−·0008
57	133·4	88·1		78·3		−·0030	−·0008	+ 3·5	+ 1·9	−·0009
15 02	140·2	92·3	46·9	81·9	48·7	−·0026	−·0005	+ 8·3	+ 1·8	−·0006
07	151·4	94·0		79·5		−·0025	−·0007	+16·3	+ 1·5	−·0008
12	147·3	89·8		82·0		−·0028	−·0005	+13·4	+ 1·9	−·0007
17	152·5	103·8		85·0		−·0016	−·0004	+17·1	+ 1·0	−·0005
22	151·5	113·8		84·0		−·0008	−·0004	+16·3	+ 0·3	−·0004
27	145·9	113·5		95·1		−·0008	+·0003	+12·2	+ 0·9	+·0002
32	156·0	112·5		92·1		−·0009	+·0001	+19·5	+ 0·9	·0000
37	165·7	108·7		74·5		−·0012	−·0010	+26·4	+ 0·2	−·0010
42	153·9	100·5		71·0		−·0019	−·0012	+17·9	+ 0·6	−·0012
47	137·9	79·0		75·5		−·0038	−·0009	+ 6·4	+ 2·4	−·0011
52	140·6	75·2		78·5		−·0042	−·0008	+ 8·3	+ 2·9	−·0010
57	145·5	77·4		78·5		−·0040	−·0008	+11·7	+ 2·7	−·0010
16 02	144·5	79·8	46·4	80·3	48·4	−·0038	−·0006	+11·0	+ 2·7	−·0008
07	141·6	84·4		85·9		−·0034	−·0003	+ 9·1	+ 2·6	−·0005
12	138·1	86·4		90·0		−·0032	·0000	+ 6·6	+ 2·7	−·0002
17	138·0	91·0		93·1		−·0028	+·0002	+ 6·5	+ 2·5	·0000
22	136·6	91·3		91·6		−·0028	+·0001	+ 5·5	+ 2·4	−·0001
27	135·3	96·4		92·0		−·0023	+·0001	+ 4·7	+ 2·0	−·0001
32	134·0	103·1		92·0		−·0018	+·0001	+ 3·8	+ 1·6	·0000
37	129·1	101·3		90·0		−·0019	·0000	+ 0·4	+ 1·6	−·0001
42	127·0	99·8		90·4		−·0020	·0000	− 1·1	+ 1·7	−·0001
47	127·8	99·6		88·7		−·0020	−·0001	− 0·5	+ 1·6	−·0002
52	128·2	95·4		86·1		−·0024	−·0003	− 0·1	+ 1·8	−·0004
57	129·5	89·1		82·9		−·0030	−·0004	+ 0·8	+ 2·2	−·0006

1844.
Toronto.

March 29.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
						$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	° ′	Parts of Total Force.
29 17 02	132·3	84·5	45·9	80·9	47·3	−·0034	−·0006	+ 3·0	+ 2·4	−·0008
07	135·4	80·9		77·8		−·0037	−·0007	+ 5·4	+ 2·5	−·0009
12	136·1	75·7		73·3		−·0042	−·0010	+ 6·1	+ 2·7	−·0012
17	136·6	67·6		69·8		−·0049	−·0012	+ 6·6	+ 3·1	−·0014
22	135·6	58·8		63·0		−·0057	−·0016	+ 6·1	+ 3·5	−·0019
27	135·6	53·5		68·1		−·0061	−·0013	+ 6·3	+ 4·1	−·0016
32	136·0	65·5		70·6		−·0051	−·0011	+ 6·7	+ 3·4	−·0014
37	135·0	63·8		65·4		−·0053	−·0014	+ 6·2	+ 3·3	−·0017
42	136·7	52·3		47·1		−·0063	−·0025	+ 7·6	+ 3·2	−·0027
47	133·4	92·6		22·9		−·0028	−·0040	+ 5·4	− 1·0	−·0039
52	134·2	111·9		18·8		−·0011	−·0042	+ 6·2	− 2·6	−·0040
57	104·0	125·8		18·8		+·0001	−·0042	−15·4	− 3·6	−·0039
18 02	89·2	112·8	45·3	7·3	47·2	−·0011	−·0049	−25·8	− 3·2	−·0047
07	67·7	62·3		15·1		−·0055	−·0044	−41·6	+ 0·9	−·0045
12	64·0	1·0		49·5		−·0108	−·0023	−44·5	+ 7·2	−·0028
17	110·6	39·6		59·5		−·0074	−·0017	−11·1	+ 4·8	−·0021
22	140·0	72·9		62·7		−·0045	−·0015	+ 9·9	+ 2·5	−·0017
27	161·0	94·1		56·7		−·0027	−·0019	+24·8	+ 0·7	−·0019
32	164·9	106·6		50·7		−·0016	−·0023	+27·4	− 0·6	−·0023
37	150·5	95·8		46·6		−·0025	−·0025	+16·8	0·0	−·0025
42	136·9	69·3		56·3		−·0048	−·0020	+ 6·8	+ 2·4	−·0022
47	142·1	51·7		66·1		−·0063	−·0014	+10·3	+ 4·1	−·0017
52	152·5	61·5		64·6		−·0055	−·0015	+17·6	+ 3·4	−·0018
57	158·0	70·2		64·8		+·0047	−·0015	+21·3	+ 2·7	−·0017
19 02	156·7	68·9	45·0	62·4	46·6	−·0048	−·0016	+20·2	+ 2·7	−·0018
07	151·4	85·0		64·5		−·0034	−·0015	+16·4	+ 1·6	−·0016
12	145·7	96·1		68·4		−·0025	−·0013	+12·3	+ 1·0	−·0014
17	139·1	99·3		74·7		−·0022	−·0009	+ 7·6	+ 1·1	−·0010
22	138·5	108·6		83·6		−·0014	−·0004	+ 7·2	+ 0·9	−·0005
27	140·0	106·3		85·3		−·0016	−·0003	+ 8·3	+ 1·1	−·0004
32	140·4	100·1		79·9		−·0022	−·0006	+ 8·7	+ 1·4	−·0007
37	141·6	97·8		78·7		−·0024	−·0007	+ 9·6	+ 1·4	−·0008
42	141·8	90·9		75·9		−·0030	−·0009	+ 9·8	+ 1·8	−·0010
47	143·2	87·1		71·0		−·0034	−·0012	+10·8	+ 1·9	−·0013
52	143·2	84·6		68·2		−·0036	−·0014	+10·9	+ 1·9	−·0015
57	144·0	71·8		57·8		−·0048	−·0020	+11·4	+ 2·4	−·0022
20 02	146·4	69·2	44·5	53·0	45·9	−·0050	−·0023	+13·3	+ 2·3	−·0025
07	148·4	—		—		—	—	+14·8	—	—
12	147·1	42·3		47·2		−·0074	−·0027	+14·1	+ 4·0	−·0030
17	141·4	47·4		48·9		−·0070	−·0026	+10·0	+ 3·7	−·0029
22	136·8	69·2		62·1		−·0051	−·0018	+ 6·9	+ 2·8	−·0020
27	130·3	88·9		73·3		−·0034	−·0010	+ 2·3	+ 2·0	− 0012
32	125·9	122·6		68·8		−·0005	−·0013	− 0·7	− 0·7	−·0013
37	121·0	126·6		59·0		−·0002	−·0019	− 4·1	− 1·4	−·0018
42	118·9	122·9		56·1		−·0005	−·0021	− 5·4	− 1·4	−·0020
47	119·7	126·5		51·5		−·0002	−·0024	− 4·8	− 1·9	−·0023
52	112·1	111·9		40·2		−·0015	−·0031	−10·2	− 1·4	−·0030
57	109·0	103·3		40·2		−·0023	−·0031	−12·2	− 0·7	−·0031
21 02	111·4	107·7	44·0	45·1	45·0	−·0019	−·0028	−10·4	− 0·8	−·0027
07	113·1	110·4		49·5		−·0017	−·0025	− 9·3	− 0·7	−·0025
12	117·6	120·3		56·4		−·0008	−·0021	− 6·2	− 1·1	−·0020
17	121·2	122·8		58·8		−·0006	−·0019	− 3·7	− 1·1	−·0018
22	119·0	119·1		61·6		−·0009	−·0018	− 5·4	− 0·8	−·0017
27	120·7	118·4		60·6		−·0010	−·0019	− 4·4	− 0·8	−·0018
32	125·8	106·0		58·4		−·0021	−·0020	− 0·8	+ 0·1	−·0020
37	132·9	105·3		56·3		−·0022	−·0021	+ 4·1	+ 0·1	−·0021
42	138·5	107·3		56·5		−·0020	−·0021	+ 8·0	− 0·1	−·0021
47	141·3	107·2		58·6		−·0020	−·0020	+ 9·9	0·0	−·0020
52	147·0	105·6		58·9		−·0022	−·0020	+13·8	+ 0·2	−·0020
57	143·7	114·3		66·8		−·0014	−·0015	+11·3	− 0·1	−·0015
22 02	141·2	113·8	44·0	67·8	45·2	−·0015	−·0015	+ 9·4	0·0	−·0015
07	142·6	123·8		71·8		−·0006	−·0012	+10·4	− 0·5	−·0012

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Toronto.

March 29—30.

OBSERVATIONS OF THE MAGNETOMETERS. The Declination was observed 2m. before, and the V. F. 1m. after the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta \psi$	$\Delta \theta$	$\frac{\Delta \phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
29 22 12	141·6	122·0		71·6		−·0008	−·0012	+ 9·7	− 0·3	−·0012
17	139·0	116·3		70·3		−·0013	−·0013	+ 7·8	0·0	−·0013
22	139·0	111·3		68·4		−·0017	−·0014	+ 7·8	+ 0·2	−·0014
27	138·8	108·0		67·2		−·0020	−·0015	+ 7·6	+ 0·4	−·0015
32	140·0	105·0		66·1		−·0023	−·0016	+ 8·5	+ 0·6	−·0016
37	141·5	97·8		62·0		−·0029	−·0018	+ 9·5	+ 0·9	−·0019
42	145·3	99·0		59·4		−·0028	−·0020	+12·2	+ 0·7	−·0020
47	147·1	99·0		60·7		−·0028	−·0019	+13·6	+ 0·8	−·0020
52	148·3	101·8		60·7		−·0026	−·0019	+14·4	+ 0·6	−·0019
57	148·2	102·5		64·4		−·0025	−·0017	+14·3	+ 0·7	−·0017
23 02	146·5	101·4	43·5	64·4	44·6	−·0026	−·0017	+13·1	+ 0·8	−·0018
07	143·0	99·3		66·9		−·0028	−·0016	+10·6	+ 1·0	−·0017
12	139·2	98·0		69·2		−·0029	−·0014	+ 7·9	+ 1·3	−·0015
17	137·6	98·5		72·1		−·0029	−·0013	+ 6·8	+ 1·4	−·0014
22	133·4	101·5		74·7		−·0026	−·0011	+ 3·7	+ 1·3	−·0012
27	128·5	102·0		77·1		−·0026	−·0010	+ 0·3	+ 1·4	−·0011
32	121·5	101·0		78·6		−·0027	−·0009	− 4·7	+ 1·5	−·0010
37	118·4	103·5		78·8		−·0025	−·0009	− 7·0	+ 1·4	−·0010
42	112·9	92·3		72·4		−·0034	−·0013	−10·9	+ 1·8	−·0014
47	111·1	89·0		69·0		−·0037	−·0015	−12·1	+ 1·9	−·0016
52	111·2	78·5		65·3		−·0046	−·0017	−12·1	+ 2·4	−·0019
57	109·8	78·5		65·3		−·0047	−·0017	−13·1	+ 2·5	−·0019
30 00 02	114·0	80·3	43·5	64·6	44·6	−·0045	−·0018	−10·0	+ 2·3	−·0020
07	113·9	87·3		64·4		−·0039	−·0018	−10·2	+ 1·8	−·0019
12	115·1	87·8		61·9		−·0039	−·0020	− 9·5	+ 1·6	−·0021
17	113·8	92·8		64·2		−·0035	−·0018	−10·5	+ 1·4	−·0019
22	117·6	101·8		64·2		−·0027	−·0018	− 7·8	+ 0·8	−·0019
27	119·7	112·0		68·4		−·0019	−·0016	− 6·5	+ 0·2	−·0016
32	122·5	105·3		69·4		−·0025	−·0015	− 4·5	+ 0·9	−·0016
37	122·9	112·8		69·4		−·0018	−·0016	− 4·4	+ 0·2	−·0016
42	124·0	113·0		71·5		−·0018	−·0014	− 3·7	+ 0·3	−·0014
47	120·7	105·5		74·9		−·0025	−·0012	− 6·2	+ 1·1	−·0013
52	129·8	117·5		80·0		−·0015	−·0009	+ 0·2	+ 0·5	−·0009
57	129·8	123·5		81·5		−·0010	−·0008	+ 0·1	+ 0·2	−·0008
01 02	126·6	131·0	42·5	81·5	44·1	−·0004	−·0009	− 2·3	− 0·4	−·0009
07	125·6	129·5		81·7		−·0005	−·0008	− 3·0	− 0·2	−·0008
12	123·2	131·3		79·9		−·0003	−·0010	− 4·8	− 0·6	−·0010
17	123·0	120·0		79·9		−·0012	−·0010	− 4·9	+ 0·2	−·0010
22	122·2	109·3		79·7		−·0021	−·0010	− 5·6	+ 0·9	−·0011
27	124·5	108·5		83·1		−·0022	−·0008	− 4·0	+ 1·2	−·0009
32	123·9	110·0		83·1		−·0020	−·0008	− 4·4	+ 1·0	−·0009
37	121·0	115·0		84·3		−·0016	−·0007	− 6·6	+ 0·8	−·0008
42	122·0	112·8		84·3		−·0017	−·0007	− 5·9	+ 0·9	−·0008
47	121·8	111·3		84·2		−·0018	−·0007	− 6·1	+ 0·9	−·0008
52	126·1	107·3		84·2		−·0022	−·0007	− 3·0	+ 1·3	−·0008
57	129·4	107·3		84·5		−·0021	−·0007	− 0·6	+ 1·2	−·0008
02 02	134·2	112·8	42·5	88·2	43·6	−·0016	−·0005	+ 2·8	+ 0·9	−·0006
07	131·4	104·0		89·1		−·0024	−·0004	+ 0·8	+ 1·7	−·0005
12	134·6	100·3		93·8		−·0027	−·0001	+ 3·2	+ 2·2	−·0003
17	132·1	103·0		92·5		−·0024	−·0002	+ 1·3	+ 1·9	−·0003
22	132·3	110·8		93·6		−·0017	−·0001	+ 1·5	+ 1·4	−·0002
27	131·3	108·0		93·6		−·0019	−·0001	+ 0·8	+ 1·5	−·0002
32	131·3	103·0		92·3		−·0023	−·0002	+ 0·8	+ 1·8	−·0003
37	129·5	102·2		92·9		−·0024	−·0002	− 0·4	+ 1·9	−·0003
42	135·7	93·7		91·1		−·0031	−·0003	+ 4·1	+ 2·4	−·0005
47	129·0	104·3		93·7		−·0021	−·0001	− 0·7	+ 1·7	−·0002
52	127·7	104·1		92·8		−·0021	−·0002	− 1·6	+ 1·6	−·0003
57	122·8	98·7		90·8		−·0026	−·0003	− 5·1	+ 1·9	−·0005
03 02	127·4	93·7	42·7	93·9	43·7	−·0030	−·0001	− 1·8	+ 2·4	−·0003
04 02	128·4	96·7	42·7	98·6	43·7	−·0026	+·0003	+ 0·8	+ 2·4	+·0001

ST. HELENA, 1844. MARCH 29—30.

MEAN MONTHLY READINGS OF THE MAGNETOMETERS.

Mean Göttingen Time.	Declination.	H. F. at 72°·5.	V. F. at 72°·1.	Mean Göttingen Time.	Declination.	H. F. at 72°·5.	V. F. at 72°·1.
Hours.	Sc. Div.	Sc. Div.	Sc. Div.	Hours.	Sc. Div.	Sc. Div.	Sc. Div.
00	200·2	153·7	20·2	12	200·5	146·6	21·2
01	201·5	153·7	20·3	13	200·5	146·9	21·1
02	202·3	153·3	20·7	14	200·4	147·2	20·9
03	201·7	152·0	21·1	15	200·2	147·3	20·8
04	200·5	151·1	21·6	16	200·2	147·5	20·6
05	199·9	150·6	21·8	17	200·2	147·8	20·6
06	199·7	149·6	22·0	18	200·3	147·6	20·6
07	199·8	148·7	22·1	19	200·6	148·1	20·4
08	200·0	147·9	22·0	20	198·8	148·7	20·4
09	200·2	147·4	21·9	21	196·1	150·0	20·2
10	200·2	146·5	21·6	22	195·7	151·9	19·8
11	200·5	146·9	21·5	23	197·7	153·7	19·9

Coefficients (A), Approximate Absolute Values (B.)

(A)
- Declin. $a = 0'{\cdot}712$
- H. F. $k = {\cdot}00021$, $q = {\cdot}00028$
- V. F. $k = {\cdot}00079$, $q = {\cdot}00002$

(B) Approx.
- $\psi = 23° 17'$
- $X = 5{\cdot}57$
- $Y = 2{\cdot}23$
- $\theta = -21° 47'$
- $\phi = 6{\cdot}00$

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.	
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °
29 22 02	198·2	149·6	71·1	21·8	78·8
23 02	198·1	150·1	71·5	21·9	70·9
47	200·0	146·0		22·1	
52	200·7	148·7		22·1	
57	200·4	148·1		22·1	
30 00 02	200·0	147·7	72·0	22·2	71·4
07	199·6	147·0		22·2	
12	199·3	146·8		22·2	
17	199·4	146·9		22·2	
22	199·0	147·0		22·4	
27	199·0	146·2		22·3	
32	199·1	146·3		22·3	
37	199·2	146·9		22·3	
42	199·9	148·0		22·3	
47	200·0	149·1		22·5	
52	200·0	149·9		22·5	
57	199·9	149·4		22·5	
01 02	200·0	148·4	72·9	22·6	72·1
07	199·8	147·7		22·6	
12	199·4	147·1		22·6	
17	199·0	147·4		22·7	
22	199·2	147·1		22·7	
27	199·0	146·1		22·7	
32	199·0	145·1		22·7	
37	198·9	144·5		22·8	
42	198·9	144·1		22·8	
47	199·2	144·7		22·9	
52	199·4	145·2		22·9	
57	199·2	145·1		22·9	
02 02	198·9	146·5	73·1	22·9	72·7
07	198·9	146·1		22·9	
12	199·0	146·2		23·2	
17	199·0	146·0		23·2	
22	198·4	145·8		23·2	
27	198·1	146·0		23·2	
32	198·1	146·1		23·2	
37	198·2	146·1		23·2	
42	198·1	145·5		23·2	
47	197·3	145·9		23·2	

Differences from the Mean Monthly Values at the corresponding Hours.

$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
−·0011	+·0016	+ 1·8	+ 3·2	−·0007
−·0010	+·0016	+ 0·3	+ 3·1	−·0006
−·0018	+·0016	+ 0·3	+ 4·0	−·0013
−·0012	+·0015	+ 0·6	+ 3·2	−·0008
−·0013	+·0015	+ 0·3	+ 3·3	−·0009
−·0014	+·0016	− 0·1	+ 3·5	−·0010
−·0015	+·0016	− 0·5	+ 3·6	−·0011
−·0016	+·0016	− 0·8	+ 3·8	−·0012
−·0015	+·0016	− 0·8	+ 3·6	−·0011
−·0015	+·0017	− 1·1	+ 3·8	−·0011
−·0016	+·0017	− 1·2	+ 3·9	−·0012
−·0016	+·0017	− 1·2	+ 3·9	−·0012
−·0014	+·0016	− 1·3	+ 3·5	−·0010
−·0012	+·0016	− 0·8	+ 3·3	−·0008
−·0009	+·0017	− 0·8	+ 3·1	−·0005
−·0007	+·0017	− 0·9	+ 2·8	−·0004
−·0008	+·0017	− 1·1	+ 2·9	−·0005
−·0010	+·0018	− 1·1	+ 3·3	−·0006
−·0012	+·0018	− 1·3	+ 3·5	−·0008
−·0012	+·0017	− 1·5	+ 3·4	−·0008
−·0012	+·0018	− 1·9	+ 3·5	−·0008
−·0012	+·0018	− 1·8	+ 3·5	−·0008
−·0014	+·0017	− 2·0	+ 3·6	−·0010
−·0016	+·0017	− 2·0	+ 3·9	−·0012
−·0017	+·0018	− 2·2	+ 4·1	−·0012
−·0018	+·0017	− 2·2	+ 4·1	−·0013
−·0017	+·0018	− 2·0	+ 4·1	−·0012
−·0016	+·0018	− 2·0	+ 4·0	−·0011
−·0016	+·0017	− 2·1	+ 3·9	−·0012
−·0013	+·0017	− 2·4	+ 3·5	−·0009
−·0013	+·0017	− 2·3	+ 3·5	−·0009
−·0012	+·0019	− 2·2	+ 3·6	−·0008
−·0012	+·0019	− 2·2	+ 3·6	−·0008
−·0012	+·0019	− 2·6	+ 3·6	−·0008
−·0012	+·0018	− 2·7	+ 3·5	−·0008
−·0011	+·0018	− 2·7	+ 3·4	−·0007
−·0010	+·0018	− 2·6	+ 3·3	−·0006
−·0011	+·0017	− 2·7	+ 3·3	−·0007
−·0010	+·0017	− 3·2	+ 3·2	−·0006

1844.
St. Helena.

March 30.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
						$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
30 02 52	197·1	145·1		23·2		−·0011	+·0017	− 3·3	+ 3·3	−·0007
57	197·0	145·0		23·2		−·0011	+·0017	− 3·3	+ 3·3	−·0007
03 02	196·9	144·2	74·0	23·2	73·4	−·0012	+·0017	− 3·4	+ 3·4	−·0008
07	196·8	143·8		23·2		−·0013	+·0017	− 3·4	+ 3·5	−·0009
12	196·0	142·5		23·2		−·0015	+·0016	− 4·0	+ 3·6	−·0011
17	196·0	141·9		23·2		−·0016	+·0016	− 3·9	+ 3·8	−·0012
22	196·0	140·4		23·2		−·0019	+·0015	− 3·8	+ 4·0	−·0014
27	196·0	140·0		23·5		−·0019	+·0017	− 3·7	+ 4·2	−·0014
32	195·8	140·0		24·0		−·0019	+·0021	− 3·8	+ 4·7	−·0014
37	196·0	140·9		23·8		−·0017	+·0020	− 3·6	+ 4·3	−·0012
42	196·0	142·2		23·8		−·0014	+·0020	− 3·4	+ 4·0	−·0009
47	196·3	144·0		23·8		−·0010	+·0019	− 3·2	+ 3·4	−·0006
52	196·8	145·8		23·8		−·0005	+·0019	− 2·7	+ 2·8	−·0002
57	196·9	146·1		23·8		−·0004	+·0018	− 2·6	+ 2·6	−·0001
04 02	197·0	146·5	74·8	24·0	74·1	−·0003	+·0020	− 2·5	+ 2·7	·0000
07	196·9	146·7		24·0		−·0003	+·0020	− 2·5	+ 2·7	·0000
12	197·0	146·8		24·0		−·0002	+·0020	− 2·4	+ 2·6	+·0001
17	197·0	146·2		24·0		−·0004	+·0020	− 2·3	+ 2·8	−·0001
22	197·0	146·1		24·0		−·0004	+·0019	− 2·3	+ 2·7	−·0001
27	197·0	146·3		24·0		−·0003	+·0019	− 2·2	+ 2·6	·0000
32	197·2	146·7		24·0		−·0002	+·0019	− 2·1	+ 2·5	+·0001
37	197·3	146·9		24·0		−·0002	+·0019	− 2·0	+ 2·5	+·0001
42	197·3	146·9		24·0		−·0002	+·0019	− 2·0	+ 2·5	+·0001
47	197·4	146·9		24·0		−·0001	+·0019	− 1·8	+ 2·4	+·0002
52	197·2	146·8		24·0		−·0002	+·0018	− 2·0	+ 2·4	+·0001
57	197·7	146·4		24·0		−·0002	+·0018	− 1·5	+ 2·4	+·0001
05 02	197·8	146·1	74·9	24·0	74·2	−·0003	+·0018	− 1·5	+ 2·5	·0000
07	197·8	146·1		24·0		−·0003	+·0018	− 1·5	+ 2·5	·0000
12	197·5	145·9		24·0		−·0003	+·0018	− 1·7	+ 2·5	·0000
17	197·2	145·3		24·0		−·0004	+·0018	− 1·9	+ 2·6	−·0001
22	197·2	145·1		24·0		−·0004	+·0017	− 1·8	+ 2·5	−·0001
27	197·2	144·5		24·0		−·0005	+·0017	− 1·8	+ 2·6	−·0002
32	197·1	143·2		24·0		−·0008	+·0017	− 1·9	+ 2·9	−·0005
37	197·1	142·8		24·0		−·0008	+·0017	− 1·9	+ 2·9	−·0005
42	196·7	141·9		24·0		−·0010	+·0017	− 2·2	+ 3·2	−·0006
47	196·2	140·9		24·0		−·0012	+·0017	− 2·5	+ 3·4	−·0008
52	196·0	139·9		24·0		−·0014	+·0017	− 2·6	+ 3·6	−·0010
57	195·9	139·9		23·8		−·0013	+·0015	− 2·7	+ 3·3	−·0009
06 02	195·9	141·8	75·0	23·9	74·2	−·0009	+·0016	− 2·7	+ 2·9	−·0006
07	196·1	142·5		23·8		−·0008	+·0015	− 2·5	+ 2·7	−·0005
12	196·4	143·0		23·8		−·0006	+·0015	− 2·3	+ 2·5	−·0003
17	196·5	143·1		23·8		−·0006	+·0015	− 2·2	+ 2·5	−·0003
22	196·8	143·0		24·0		−·0006	+·0017	− 2·0	+ 2·7	−·0003
27	196·9	143·0		24·0		−·0006	+·0017	− 2·0	+ 2·7	−·0003
32	196·9	142·8		23·9		−·0006	+·0016	− 2·0	+ 2·6	−·0003
37	196·9	143·0		23·9		−·0006	+·0015	− 2·0	+ 2·5	−·0003
42	196·9	143·0		23·9		−·0005	+·0015	− 2·0	+ 2·4	−·0002
47	196·9	142·9		23·9		−·0005	+·0015	− 2·0	+ 2·4	−·0002
52	196·9	142·9		23·9		−·0005	+·0015	− 2·0	+ 2·4	−·0002
57	196·9	142·9		23·9		−·0005	+·0015	− 2·0	+ 2·4	−·0002
07 02	197·8	142·5	75·1	23·9	74·9	−·0006	+·0015	− 1·4	+ 2·5	−·0003
07	198·0	143·0		23·8		−·0004	+·0014	− 1·3	+ 2·1	−·0002
12	197·9	142·8		23·9		−·0005	+·0015	− 1·3	+ 2·4	−·0002
17	198·0	142·8		23·9		−·0005	+·0015	− 1·3	+ 2·4	−·0002
22	198·0	142·4		23·9		−·0006	+·0015	− 1·3	+ 2·5	−·0003
27	198·0	142·0		24·0		−·0006	+·0016	− 1·3	+ 2·6	−·0003
32	197·9	141·3		24·1		−·0008	+·0017	− 1·4	+ 2·9	−·0005
37	198·0	140·9		24·0		−·0008	+·0017	− 1·3	+ 2·9	−·0005
42	197·8	140·5		24·0		−·0009	+·0017	− 1·5	+ 3·1	−·0005
47	197·8	140·1		24·1		−·0010	+·0017	− 1·5	+ 3·2	−·0006
52	197·4	139·7		24·2		−·0011	+·0018	− 1·8	+ 3·4	−·0007
57	197·6	140·6		24·2		−·0009	+·0018	− 1·7	+ 3·2	−·0005

1844.
St. Helena.

March 30.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta \psi$	$\Delta \theta$	$\frac{\Delta \phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
30 08 02	197·9	143·0	74·9	24·2	74·7	−·0004	+·0018	− 1·5	+ 2·6	−·0001
07	198·0	144·0		24·2		−·0002	+·0018	− 1·4	+ 2·4	+·0001
12	198·0	144·5		24·3		·0000	+·0019	− 1·4	+ 2·2	+·0002
17	198·0	145·0		24·3		+·0001	+·0019	− 1·4	+ 2·1	+·0003
22	198·0	145·4		24·1		+·0002	+·0017	− 1·5	+ 1·8	+·0004
27	198·0	144·9		24·0		+·0001	+·0017	− 1·5	+ 1·9	+·0003
32	197·7	144·0		24·1		−·0001	+·0017	− 1·7	+ 2·1	+·0001
37	197·4	143·0		24·1		−·0003	+·0018	− 1·9	+ 2·5	·0000
42	197·4	143·8		24·1		−·0001	+·0018	− 1·9	+ 2·2	+·0001
47	197·9	144·0		24·0		−·0001	+·0017	− 1·5	+ 2·1	+·0001
52	198·3	144·0		24·0		−·0001	+·0017	− 1·3	+ 2·1	+·0001
57	198·4	143·9		24·0		−·0001	+·0017	− 1·3	+ 2·1	+·0001
09 02	198·6	143·8	74·9	24·0	74·6	−·0001	+·0017	− 1·1	+ 2·1	+·0001
07	198·6	143·7		24·0		−·0001	+·0017	− 1·1	+ 2·1	+·0001
12	199·0	143·1		24·0		−·0002	+·0018	− 0·8	+ 2·4	+·0001
17	198·8	142·8		24·1		−·0003	+·0019	− 1·0	+ 2·6	·0000
22	198·8	142·0		24·1		−·0005	+·0019	− 1·0	+ 1·8	−·0002
27	198·9	141·2		24·1		−·0006	+·0019	− 0·9	+ 1·9	−·0003
32	198·6	140·8		24·1		−·0007	+·0020	− 1·1	+ 3·2	−·0003
37	198·7	140·9		24·1		−·0007	+·0020	− 1·1	+ 3·2	−·0003
42	198·7	141·0		24·1		−·0007	+·0020	− 1·1	+ 3·2	−·0003
47	198·6	140·9		24·1		−·0007	+·0020	− 1·1	+ 3·2	−·0003
52	198·6	140·6		24·1		−·0008	+·0021	− 1·1	+ 3·4	−·0004
57	198·7	140·3		24·0		−·0008	+·0020	− 1·1	+ 3·3	−·0004
10 02	198·7	140·2	74·2	24·0	74·2	−·0009	+·0020	− 1·1	+ 3·4	−·0005
07	198·8	140·6		24·0		−·0008	+·0020	− 1·0	+ 3·3	−·0004
12	198·8	141·4		24·0		−·0006	+·0020	− 1·1	+ 3·1	−·0002
17	198·6	142·3		24·0		−·0004	+·0020	− 1·2	+ 2·8	−·0001
22	199·0	144·9		24·0		+·0001	+·0020	− 0·9	+ 2·2	+·0003
27	199·8	146·8		24·0		+·0005	+·0020	− 0·4	+ 1·8	+·0007
32	200·5	147·5		24·0		+·0006	+·0020	+ 0·1	+ 1·7	+·0008
37	200·3	147·1		24·0		+·0005	+·0020	− 0·1	+ 1·8	+·0007
42	200·3	147·0		24·0		+·0005	+·0020	− 0·1	+ 1·8	+·0007
47	200·1	146·9		24·0		+·0005	+·0020	− 0·2	+ 1·8	+·0007
52	200·1	146·2		24·0		+·0003	+·0020	− 0·3	+ 2·0	+·0005
57	200·0	146·7		24·0		+·0004	+·0020	− 0·4	+ 1·9	+·0006
11 02	200·0	146·4	74·0	24·0	74·0	+·0001	+·0020	− 0·4	+ 2·2	+·0004

1844.
Van Diemen Island.

March 31.

For Mean Monthly Readings, *see* page 303.

VAN DIEMEN ISLAND, 1844. MARCH 31.

31 06 02	76·0	100·5	54·0	90·1	52·6	−·0006	−·0006	+ 0·7	0·0	−·0006
07 02	81·0	100·9	54·0	99·4	52·4	−·0004	−·0004	+ 4·2	0·0	−·0004
07	80·9	98·8		99·5		−·0009	−·0004	+ 4·1	+ 0·5	−·0005
12	80·2	99·6		98·2		−·0008	−·0004	+ 3·6	+ 0·4	−·0004
17	79·5	99·4		96·1		−·0008	−·0005	+ 3·1	+ 0·3	−·0005
22	79·2	99·6		94·1		−·0008	−·0006	+ 2·9	+ 0·2	−·0006
27	78·5	99·6		94·1		−·0008	−·0006	+ 2·4	+ 0·2	−·0006
32	78·4	—		—		—	—	+ 2·3	—	—
08 02	77·7	101·0	53·4	96·3	52·8	−·0005	−·0004	+ 1·9	+ 0·1	−·0004

1844.
Van Diemen Island.

April 1—2.

VAN DIEMEN ISLAND, 1844. APRIL 1—3.

MEAN MONTHLY READINGS OF THE MAGNETOMETERS.

Mean Göttingen Time.	Declination.	H. F. at 54°·8.	V. F. at 53°·5.	Mean Göttingen Time.	Declination.	H. F. at 54°·8.	V. F. at 53°·5.
Hours.	Sc. Div.	Sc. Div.	Sc. Div.	Hours.	Sc. Div.	Sc. Div.	Sc. Div.
00	72·5	100·7	92·9	12	72·4	98·5	88·8
01	72·2	101·3	93·4	13	72·5	96·9	90·3
02	72·1	100·6	93·1	14	74·7	96·5	91·3
03	73·0	101·0	91·5	15	77·5	96·2	93·4
04	73·6	101·1	91·2	16	79·9	97·4	94·6
05	75·8	100·5	92·7	17	81·0	98·2	96·2
06	76·1	101·0	89·4	18	80·3	99·5	95·9
07	76·4	100·8	88·9	19	78·8	100·5	94·7
08	76·1	101·2	87·0	20	77·6	100·8	94·2
09	75·4	101·0	86·4	21	76·5	100·7	95·2
10	75·1	100·5	87·5	22	74·8	100·4	94·3
11	73·3	100·3	85·5	23	74·0	100·5	94·6

Coefficients (A), Approximate Absolute Values (B.)

(A) Declin. $a = 0'\cdot71$

H. F. $k = \cdot000229$, $q = \cdot000230$

V. F. $k = \cdot000036$, $q = \cdot00021$

(B) Approx. $\psi = -9°\,55'$, $X = 4\cdot51$, $Y = 12\cdot86$, $\theta = -70°\,37'$, $\phi = 13\cdot62$

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
1 20 02	74·2	95·8	54·0	97·3	52·4	−·0013	−·0001	− 2·4	+ 1·3	−·0002
21 02	76·7	97·9	54·2	101·2	52·8	−·0008	+·0001	+ 0·1	+ 1·0	·0000
22 02	65·1	101·4	54·5	83·2	52·8	+·0002	−·0005	− 6·9	− 0·8	−·0004
07	65·7	100·4		86·0		−·0001	−·0004	− 6·4	− 0·3	−·0004
12	66·4	99·6		89·0		−·0003	−·0003	− 5·9	0 0	−·0003
17	67·3	98·2		93·6		−·0006	−·0002	− 5·2	+ 0·4	−·0002
22	69·7	97·5		100·3		−·0007	+·0001	− 3·4	+ 0·9	·0000
27	72·1	96·4		100·5		−·0010	+·0001	− 1·7	+ 1·2	·0000
32	71·0	95·5		101·8		−·0012	+·0001	− 2·4	+ 1·4	·0000
37	71·4	95·1		104·4		−·0013	+·0002	− 2·1	+ 1·6	·0000
23 02	69·8	95·9	54·7	103·5	52·9	−·0011	+·0002	− 3·0	+ 1·4	+·0001
2 00 02	74·1	99·3	54·5	99·1	53·0	−·0004	+·0001	+ 1·1	+ 0·5	·0000
01 02	74·3	101·4	54·0	97·5	52·8	−·0002	·0000	+ 1·5	+ 0·2	·0000
02 02	74·2	100·8	54·0	96·9	52·8	−·0001	·0000	+ 1·5	+ 0·1	·0000
03 02	75·8	103·4	54·1	97·1	52·6	+·0004	·0000	+ 2·0	− 0·4	·0000
04 02	76·6	102·7	54·0	91·5	52·8	+·0002	−·0001	+ 2·1	− 0·3	−·0001
05 02	71·6	98·8	53 8	93·6	52·6	−·0006	−·0002	− 3·0	+ 0·4	−·0002
06 02	83·1	104·3	53·5	88·2	52·2	+·0005	−·0003	+ 5·0	− 0·9	−·0002
07 02	74·0	100·1	53·5	91·3	52·2	−·0005	−·0002	− 1·7	+ 0·3	−·0002
08 02	74·3	102·7	53·4	85·8	52·2	·0000	−·0003	− 1·3	− 0·3	−·0003
09 02	78·5	99·8	53·0	97·7	52·0	−·0007	+·0001	+ 2·2	+ 0·9	·0000
10 02	75·5	98·9	53·3	95·6	51·7	−·0007	−·0001	+ 0·3	+ 0·7	−·0002
11 02	74·3	98·9	53·1	92·8	51·6	−·0007	−·0001	+ 0·7	+ 0·7	−·0002
12 02	71·6	97·9	52·8	92·7	51·5	−·0006	−·0003	− 0·6	+ 0·3	−·0003
13 02	72·4	96·1	52·7	94·7	51·4	−·0007	−·0003	− 0·1	+ 0·4	−·0003
14 02	74·4	95·2	52·8	98·9	51·5	−·0008	−·0002	− 0·2	+ 0·7	−·0003
15 02	75·6	96·9	52·9	100·2	51·7	−·0003	−·0001	− 1·4	+ 0·2	−·0001
16 02	80·4	96·6	53·2	103·1	52·0	−·0006	·0000	+ 0·4	+ 0·7	−·0001
17 02	80·0	96·0	53·4	105·1	52·2	−·0008	+·0001	− 0·7	+ 1·0	·0000
18 02	79·2	96·8	53·6	102·8	52·4	−·0009	·0000	− 0·8	+ 1·0	−·0001
19 02	77·5	99·7	53·7	98·4	52·7	−·0004	·0000	− 0·9	+ 0·4	·0000
20 02	76·7	98·7	53·9	102·2	52·8	−·0007	+·0001	− 0·6	+ 0·9	·0000
21 02	71·8	97·9	54·2	99·3	53·0	−·0008	·0000	− 3·3	+ 0·9	−·0001
22 02	62·2	88·5	54·2	99·9	53·2	−·0029	+·0001	− 9·0	+ 3·2	−·0002
07	56·2	90·4		100·2		−·0024	+·0002	−13·1	+ 2·8	−·0001
12	56·3	93·8		99·8		−·0016	+·0001	−13·1	+ 1·8	−·0001
17	58·7	93·9		95·2		−·0016	·0000	−11·3	+ 1·7	−·0002
22	57·0	93·4		91·2		−·0017	−·0002	−12·4	+ 1·6	−·0004
27	54·4	94·6		89·4		−·0014	−·0002	−14·3	+ 1·3	−·0003

1844.
Van Diemen Island.

April 2—3.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours. $\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
2 22 32	54·6	95·4		88·6		−·0013	−·0003	−14·1	+ 1·1	−·0004
37	56·3	96·0		88·6		−·0011	−·0003	−12·8	+ 0·9	−·0004
42	57·7	95·6		88·6		−·0012	−·0003	−11·8	+ 1·0	−·0004
47	58·8	96·2		89·5		−·0011	−·0002	−10·9	+ 1·0	−·0003
52	61·3	96·6		91·7		−·0010	−·0002	− 9·1	+ 0·9	−·0003
57	64·6	95·2		93·3		−·0013	−·0001	− 6·8	+ 1·3	−·0002
23 02	65·2	95·0	54·4	95·5	53·3	−·0013	·0000	− 6·3	+ 1·4	−·0001
07	66·8	94·6		99·1		−·0014	+·0001	− 5·0	+ 1·6	−·0001
12	68·0	94·4		100·3		−·0015	+·0002	− 4·1	+ 1·8	·0000
17	69·0	94·0		102·2		−·0016	+·0002	− 3·3	+ 1·9	·0000
22	70·2	94·0		104·2		−·0016	+·0003	− 2·3	+ 2·0	+·0001
27	—	93·7		105·8		−·0017	+·0004	—	+ 2·3	+·0002
32	72·0	93·7		105·8		−·0017	+·0004	− 0·9	+ 2·3	+·0002
37	72·0	95·0		106·0		−·0013	+·0004	− 0·8	+ 1·8	+·0002
42	73·0	—		—		—	—	0·0	—	—
3 00 02	73·7	97·0	54·5	100·8	53·2	−·0009	+·0002	+ 0·9	+ 1·2	+·0001

1844.
Cape of Good Hope.

April 5.

CAPE OF GOOD HOPE, 1844. APRIL 5.

MEAN MONTHLY READINGS OF THE MAGNETOMETERS.

Mean Göttingen Time.	Declination.	H. F. at 65°·3.	V. F. at 65°·4.	Mean Göttingen Time.	Declination.	H. F. at 65°·3.	V. F. at 65°·4.
Hours.	Sc. Div.	Sc. Div.	Sc. Div.	Hours.	Sc. Div.	Sc. Div.	Sc. Div.
00	52·1	44·4	18·2	12	51·5	45·4	22·0
01	53·4	44·4	19·4	13	52·6	46·0	21·1
02	52·9	44·8	21·1	14	52·4	46·0	21·5
03	52·4	44·8	22·4	15	52·7	46·0	21·3
04	51·9	45·0	23·2	16	52·9	46·0	21·4
05	51·4	44·9	23·5	17	53·1	46·0	21·4
06	51·2	44·5	23·5	18	52·8	46·3	21·5
07	51·0	44·6	23·3	19	51·3	46·6	22·8
08	51·3	44·5	22·7	20	48·8	46·5	22·4
09	51·5	44·7	22·3	21	47·3	46·0	24·4
10	51·6	44·9	22·1	22	47·8	45·6	22·4
11	51·8	45·2	22·0	23	49·8	45·1	19·6

Coefficients (A), Approximate Absolute Values (B).

(A) Declin. $a = 0'·751$
H. F. $k = ·00035$, $q = ·00028$
V. F. $k = ·00017$, $q = ·00005$

(B) Approx. $\psi = 29°\,05'$, $X = 4·46$, $Y = 6·00$, $\theta = -53°\,16'$, $\phi = 7·50$

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours. $\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
5 12 02	52·0	46·9	62·4	27·5	62·9	−·0003	+·0008	+ 0·4	+ 1·8	+·0004
13 02	58·0	52·0	62·2	20·0	62·5	+·0012	−·0003	+ 4·1	− 2·5	+·0002
17	58·2	52·3		20·0		+·0013	−·0003	+ 4·3	− 2·6	+·0003
32	55·3	50·8		23·6		+·0008	+·0002	+ 2·1	− 1·0	+·0004
47	53·8	49·4		25·6		+·0003	+·0006	+ 1·1	+ 0·5	+·0005
14 02	53·2	49·0	62·0	26·3	62·3	+·0001	+·0007	+ 0·6	+ 1·0	+·0005
17	53·5	49·3		25·7		+·0002	+·0006	+ 0·8	+ 0·7	+·0005
32	53·8	50·2		25·0		+·0005	+·0005	+ 0·9	0·0	+·0005
47	53·2	49·8		25·0		+·0003	+·0005	+ 0·5	+ 0·3	+·0004
15 02	52·9	49·8	61·7	25·4	62·2	+·0003	+·0005	+ 0·2	+ 0·3	+·0004
17	52·9	50·1		25·3		+·0004	+·0005	+ 0·1	+ 0·2	+·0005
32	53·1	50·0		25·4		+·0004	+·0005	+ 0·2	+ 0·2	+·0005
47	54·2	49·5		25·4		+·0002	+·0005	+ 1·0	+ 0·2	+·0004

1844. Cape of Good Hope. — April 5.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours. $\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
5 16 02	54·2	48·9	61·7	25·6	62·0	·0000	+·0005	+ 1·0	+ 0·8	+·0003
17	54·8	48·9		25·2		·0000	+·0005	+ 1·4	+ 0·8	+·0003
32	54·2	48·6		26·1		−·0001	+·0006	+ 0·9	+ 1·2	+·0004
47	53·0	48·7		26·7		−·0001	+·0007	− 0·1	+ 1·3	+·0004
17 02	53·0	48·3	61·6	26·2	61·8	−·0003	+·0007	− 0·1	+ 1·7	+·0003
17	52·1	48·3		26·3		−·0003	+·0007	− 0·7	+ 1·7	+·0003
32	52·4	47·4		27·0		−·0006	+·0008	− 0·4	+ 2·3	+·0003
47	52·1	46·7		28·0		−·0009	+·0009	− 0·6	+ 3·0	+·0003
18 02	51·7	46·7	61·6	28·7	61·8	−·0009	+·0011	− 0·8	+ 3·3	+·0004
17	51·0	47·2		28·7		−·0008	+·0010	− 1·1	+ 3·0	+·0004
32	51·0	48·0		28·2		−·0006	+·0008	− 0·8	+ 2·3	+·0003
47	50·3	48·7		28·4		−·0004	+·0008	− 1·1	+ 2·0	+·0004
19 02	50·0	49·3	61·0	28·8	61·4	−·0003	+·0008	− 1·0	+ 1·8	+·0004
17	49·1	49·6		29·0		−·0002	+·0009	− 1·2	+ 1·8	+·0005
32	48·9	50·1		29·0		·0000	+·0009	− 0·8	+ 1·5	+·0006
47	47·2	50·3		29·5		·0000	+·0010	− 1·7	+ 1·7	+·0006
20 02	47·6	50·2	60·7	29·5	61·1	·0000	+·0010	− 0·9	+ 1·7	+·0006
17	46·2	50·1		29·5		·0000	+·0009	− 1·7	+ 1·5	+·0006
32	45·9	49·9		29·8		·0000	+·0009	− 1·6	+ 1·5	+·0006
47	44·9	52·0		29·8		+·0008	+·0008	− 2·1	0·0	+·0008
21 02	44·7	49·2	60·7	29·8	61·1	−·0002	+·0007	− 2·0	+ 1·5	+·0004
17	44·9	48·8		29·8		−·0003	+·0008	− 1·9	+ 1·8	+·0004
32	45·0	48·4		29·8		−·0004	+·0009	− 2·0	+ 2·1	+·0004
47	44·9	48·0		29·0		−·0005	+·0008	− 2·1	+ 2·1	+·0003
22 02	45·1	47·7	60·8	28·3	61·3	−·0005	+·0008	− 2·0	+ 2·1	+·0003
32	45·6	46·9		27·5		−·0006	+·0009	− 2·4	+ 2·5	+·0004
23 02	46·0	45·8	61·1	26·6	61·6	−·0010	+ 0010	− 2·9	+ 3·3	+·0003

1844. Van Diemen Island. — April 15.

For Mean Monthly Readings, *see* page 320.

VAN DIEMEN ISLAND, 1844. APRIL 1

15 00 02	74·6	102·3	55·0	89·1	54·0	+·0004	·0000	+ 1·5	− 0·4	·0000
01 02	65·4	101·0	55·0	83·8	54·0	·0000	−·0002	− 4·8	− 0·2	−·0002
07	65·6	100·5		84·9		−·0001	−·0002	− 4·7	− 0·1	−·0002
12	65·5	100·4		86·7		−·0001	−·0001	− 4·8	0·0	−·0001
17	66·0	100·4		87·6		−·0001	−·0001	− 4·4	0·0	−·0001
22	66·4	100·0		89·0		−·0002	−·0001	− 4·1	+ 0·1	−·0001
27	67·0	99·8		89·0		−·0002	−·0001	− 3·7	+ 0·1	−·0001
32	66·8	99·6		89·5		−·0003	−·0001	− 3·8	+ 0·2	−·0001
37	66·6	100·2		88·9		−·0001	−·0001	− 3·9	0·0	−·0001
42	67·0	100·3		89·8		−·0001	−·0001	− 3·6	0·0	−·0001
47	67·2	100·3		89·8		−·0001	−·0001	− 3·5	0·0	−·0001
52	67·4	100·6		89·7		·0000	−·0001	− 3·3	− 0·1	−·0001
57	67·8	100·7		89·4		·0000	−·0001	− 3·1	− 0·1	−·0001
02 02	68·0	100·4	55·0	89·6	53·8	·0000	−·0001	− 2·9	− 0·1	−·0001
07	69·0	100·2		90·0		·0000	·0000	− 2·3	0·0	·0000
12	69·4	100·0		90·2		−·0001	·0000	− 2·1	+ 0.1	·0000
17	69·0	100·1		90·2		−·0001	·0000	− 2·3	+ 0·1	·0000
22	69·2	100·0		91·0		−·0001	·0000	− 2·3	+ 0·1	·0000
27	69·6	100·2		91·5		−·0001	+·0001	− 2·1	+ 0·2	+·0001
32	70·0	100·2		90·8		−·0001	·0000	− 1·9	+ 0·1	·0000
37	70·2	100·2		91·6		−·0001	+·0001	− 1·7	+ 0·2	+·0001
42	70·5	100·0		92·0		−·0002	+·0001	− 1·6	+ 0·3	+·0001
47	71·2	100·2		92·0		−·0001	+·0001	− 1·1	+ 0·2	+·0001
52	71·0	—		—		—	—	− 1·4	—	—
03 02	71·3	100·5	55·0	91·6	54·0	−·0001	+·0001	− 1·2	+ 0·2	+·0001
04 02	73·8	100·9	55·0	91·6	53·8	·0000	+·0001	+ 0·1	+ 0·1	+·0001

1844. Cape of Good Hope. — April 16.

For Mean Monthly Readings, *see* page 321.

CAPE OF GOOD HOPE, 1844. APRIL 16—17.

16 15 02	52·9	48·0	65·7	19·7	65·8	+·0008	−·0003	+ 0·2	− 1·8	+·0001
16 02	51·1	47·9	65·6	20·1	65·7	+·0007	−·0002	− 1·4	− 1·5	+·0001
17 02	53·0	47·8	65·6	19·5	65·7	+·0007	−·0003	− 0·1	− 1·7	+·0001
18 02	57·0	52·8	65·2	13·8	65·3	+·0022	−·0013	+ 3·2	− 5·8	·0000

1844.
Cape of Good Hope.

April 16—17.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
						$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta \psi$	$\Delta \theta$	$\frac{\Delta \phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
16 18 07	57·2	52·8		13·8		+·0022	−·0013	+ 3·4	− 5·8	·0000
12	56·9	53·0		13·8		+·0023	−·0013	+ 3·3	− 5·9	·0000
17	57·0	52·8		13·6		+·0022	−·0014	+ 3·5	− 5·9	−·0001
22	57·1	52·6		13·7		+·0021	−·0014	+ 3·6	− 5·8	−·0001
27	57·0	52·2		14·0		+·0020	−·0014	+ 3·6	− 5·6	−·0002
32	56·2	51·8		14·6		+·0018	−·0013	+ 3·2	− 5·1	−·0002
37	55·4	51·0		17·1		+·0016	−·0009	+ 2·6	− 4·1	·0000
42	54·8	50·2		17·5		+·0013	−·0008	+ 2·3	− 3·5	−·0001
47	54·0	50·0		18·5		+·0012	−·0007	+ 1·7	− 3·1	·0000
52	54·0	50·2		18·7		+·0013	−·0007	+ 1·9	− 3·3	·0000
57	54·0	49·8		19·5		+·0011	−·0005	+ 2·0	− 2·6	+·0001
19 02	53·8	49·7	65·3	19·5	65·5	+·0011	−·0006	+ 1·9	− 2·8	·0000
07	53·3	49·7		19·8		+·0011	−·0005	+ 1·7	− 2·6	+·0001
12	52·8	49·7		20·0		+·0011	−·0005	+ 1·4	− 2·6	+·0001
17	53·2	49·2		20·0		+·0009	−·0005	+ 1·9	− 2·3	·0000
22	54·3	48·0		19·5		+·0005	−·0005	+ 2·9	− 1·7	−·0001
27	55·0	47·2		20·7		+·0002	−·0003	+ 3·5	− 0·8	−·0001
32	54·1	46·9		21·5		+·0001	−·0002	+ 3·0	− 0·5	−·0001
37	53·9	46·4		23·5		·0000	+·0002	+ 3·1	+ 0·3	+·0001
42	53·0	46·0		23·5		−·0001	+·0002	+ 2·6	+ 0·5	+·0001
47	52·8	45·8		24·8		−·0002	+·0004	+ 2·6	+ 1·0	+·0002
52	52·5	45·8		25·1		−·0002	+·0005	+ 2·5	+ 1·2	+·0003
57	52·3	45·8		25·6		−·0002	+·0006	+ 2·5	+ 1·3	+·0003
20 02	52·2	45·6	65·4	26·3	65·6	−·0003	+·0007	+ 2·6	+ 1·7	+·0003
07	51·2	45·7		27·0		−·0003	+·0008	+ 1·9	+ 1·8	+·0004
12	51·1	45·4		27·4		−·0003	+·0008	+ 2·0	+ 1·8	+·0004
17	51·0	45·0		27·8		−·0005	+·0009	+ 2·0	+ 2·3	+·0004
22	51·1	44·8		27·8		−·0005	+·0008	+ 2·1	+ 2·1	+·0003
27	51·1	44·2		27·8		−·0007	+·0008	+ 2·2	+ 2·5	+·0003
32	50·9	43·8		28·9		−·0008	+·0010	+ 2·2	+ 3·0	+·0004
37	50·1	—		—		—	—	+ 1·7	—	—
47	51·2	43·0		28·0		−·0010	+·0007	+ 2·6	+ 2·8	+·0001
21 02	52·2	42·2	65·5	27·8	65·6	−·0013	+·0006	+ 3·7	+ 3·1	−·0001
17	52·2	40·0		27·8		−·0020	+·0007	+ 3·6	+ 4·4	−·0003
32	52·9	38·0		29·1		−·0027	+·0010	+ 4·0	+ 6·1	−·0003
47	54·1	38·2		28·0		−·0026	+·0009	+ 4·8	+ 5·8	−·0004
22 02	55·3	37·4	65·5	27·1	65·7	−·0028	+·0008	+ 5·6	+ 5·9	−·0005
17	54·2	37·4		27·7		−·0028	+·0010	+ 4·4	+ 6·3	−·0004
32	54·2	36·8		27·4		−·0029	+·0011	+ 4·1	+ 6·6	−·0003
47	54·9	36·7		27·4		−·0029	+·0012	+ 4·2	+ 6·8	−·0003
23 02	54·7	36·3	65·7	28·2	65·9	−·0030	+·0015	+ 3·7	+ 7·4	−·0001
17	53·7	35·6		28·0		−·0031	+·0015	+ 2·5	+ 7·6	−·0001
32	54·2	34·6		29·1		−·0034	+·0018	+ 2·4	+ 8·6	−·0001
47	54·0	33·3		28·3		−·0038	+·0017	+ 1·9	+ 9·1	−·0003
17 00 02	54·8	33·5	65·9	29·3	66·2	−·0036	+·0019	+ 2·0	+ 9·1	−·0001
17	53·5	33·0		27·3		−·0038	+·0015	+ 0·8	+ 8·7	−·0004
32	54·5	33·4		28·6		−·0036	+·0017	+ 1·3	+ 8·7	−·0002
47	52·7	32·5		20·4		−·0039	+·0003	− 0·3	+ 6·9	−·0012
01 02	52·5	29·0	66·2	30·4	66·4	−·0052	+·0019	− 0·7	+11·7	−·0006
02 02	49·0	31·1	66·6	31·3	66·5	−·0045	+·0018	− 2·9	+10·4	−·0005
03 02	46·4	30·5	67·0	31·1	67·0	−·0045	+·0016	− 4·5	+10·1	−·0006
04 02	46·9	27·8	67·3	31·5	67·2	−·0055	+·0015	− 3·8	+11·5	−·0010
05 02	43·1	29·6	67·5	30·4	67·3	−·0047	+·0013	− 6·2	+ 9·9	−·0008
06 02	43·8	30·0	67·7	28·0	67·3	−·0044	+·0009	− 5·6	+ 8·7	−·0010
07 02	40·2	30·4	67·6	28·7	67·2	−·0043	+·0009	− 8·1	+ 8·6	−·0010
08 02	40·9	30·6	67·3	27·3	67·0	−·0043	+·0009	− 7·8	+ 8·6	−·0010
09 02	45·0	34·0	66·7	21·1	66·8	−·0034	−·0001	− 4·9	+ 5·4	−·0013
10 02	41·5	36·7	63·3	22·3	66·5	−·0034	+·0001	− 7·6	+ 5·8	−·0012
11 02	47·5	38·5	61·5	17·6	66·3	−·0034	−·0007	− 3·2	+ 4·4	−·0017
12 02	47·0	39·1	60·9	18·7	65·9	−·0034	−·0005	− 3·4	+ 4·8	−·0015
13 02	56·7	44·0	56·0	9·8	65·5	−·0033	−·0019	+ 3·1	+ 2·3	−·0024
14 02	52·7	42·8	57·2	16·4	65·2	−·0034	−·0008	+ 0·2	+ 4·3	−·0017
15 02	51·0	41·8	58·2	19·8	65·0	−·0035	−·0003	− 1·3	+ 5·3	−·0014
16 02	51·8	42·8	57·2	19·6	64·9	−·0034	−·0003	− 0·8	+ 5·1	−·0014
17 02	51·2	43·8	56·2	19·2	64·8	−·0033	−·0004	− 1·4	+ 4·8	−·0014

1844. Toronto. April 16.

TORONTO, 1844. APRIL 16—17.

MEAN MONTHLY READINGS OF THE MAGNETOMETERS.

Mean Göttingen Time.	Declination.	H. F. at 56°·7.	V. F. at 56°·5.	Mean Göttingen Time.	Declination.	H. F. at 56°·7.	V. F. at 56°·5.
Hours.	Sc. Div.	Sc. Div.	Sc. Div.	Hours.	Sc. Div.	Sc. Div.	Sc. Div.
00	128·0	169·7	136·4	12	123·4	188·3	141·7
01	128·0	171·3	136·3	13	124·2	185·5	141·7
02	129·6	172·4	139·3	14	125·7	181·3	140·6
03	128·8	169·6	139·3	15	126·7	179·5	139·7
04	125·4	168·7	139·0	16	127·7	180·2	138·7
05	121·4	170·1	138·8	17	128·2	177·3	138·5
06	118·7	172·3	139·2	18	126·4	176·0	138·0
07	117·7	178·4	140·4	19	126·2	175·9	138·5
08	117·6	184·0	141·1	20	127·8	174·3	136·9
09	119·0	189·2	141·1	21	128·0	172·4	134·7
10	120·7	189·0	141·0	22	128·1	176·3	137·9
11	122·5	192·7	141·8	23	127·1	176·9	135·8

Coefficients (A), Approximate Absolute Values (B.)

(A) Declin. $a = 0'·721$

H. F. $k = ·000087$, $q = ·00027$

V. F. $k = ·000062$, $q = ·00007$

(B) Approx. $\psi = 1°\,25'$, $X = 3·54$, $Y = 13·44$, $\theta = 75°\,16'$, $\phi = 13·90$

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm.	Sc. Div.	Therm.	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
16 19 02	140·0	147·4	57·7	124·7	58·0	−·0022	−·0008	+10·0	+ 1·2	−·0009
20 02	160·1	118·9	57·4	87·9	57·1	−·0046	−·0030	+23·2	+ 1·4	−·0031
07	159·7	119·4		81·2		−·0046	−·0034	+22·9	+ 1·0	−·0035
12	160·0	93·6		77·8		−·0068	−·0036	+23·1	+ 2·7	−·0038
17	160·0	92·5		70·5		−·0069	−·0040	+23·1	+ 2·4	−·0042
22	159·0	87·9		58·8		−·0073	−·0047	+22·4	+ 2·2	−·0049
27	157·9	106·3		75·9		−·0057	−·0036	+21·6	+ 1·8	−·0037
32	153·6	115·5		72·0		−·0049	−·0039	+18·5	+ 0·9	−·0040
37	156·7	113·1		68·6		−·0051	−·0040	+20·8	+ 0·9	−·0041
42	168·7	110·9		62·3		−·0053	−·0044	+29·4	+ 0·8	−·0045
47	182·4	111·7		60·9		−·0052	−·0045	+39·3	+ 0·6	−·0045
52	180·5	106·4		55·1		−·0057	−·0048	+37·9	+ 0·8	−·0049
57	179·1	107·1		56·2		−·0056	−·0047	+36·9	+ 0·8	−·0048
21 02	170·9	111·5	57·0	58·8	58·7	−·0052	−·0046	+30·8	+ 0·5	−·0046
07	164·0	171·2		61·1		−·0001	−·0044	+25·9	− 3·6	−·0041
12	159·9	176·0		65·1		+·0003	−·0042	+22·9	− 3·8	−·0039
17	161·1	176·6		61·2		+·0003	−·0044	+23·9	− 4·0	−·0041
22	158·1	162·3		57·0		−·0009	−·0047	+21·7	− 3·2	−·0045
27	157·0	151·4		—		−·0020	—	+20·9	—	—
32	157·1	145·4		—		−·0025	—	+21·0	—	—
37	159·4	147·7		—		−·0024	—	+22·5	—	—
42	164·6	150·7		—		−·0021	—	+26·3	—	—
47	167·8	156·7		—		−·0016	—	+28·6	—	—
52	167·5	170·7		—		−·0004	—	+28·4	—	—
57	167·7	186·5		—		−·0009	—	+28·5	—	—
22 02	161·0	175·8	56·8	—	59·3	·0000	—	+23·6	—	—
07	154·2	174·1		—		−·0002	—	+18·8	—	—
12	139·6	182·3		—		+·0005	—	+ 8·4	—	—
17	133·3	176·0		—		·0000	—	+ 3·9	—	—
22	126·6	181·2		—		+·0004	—	− 0·8	—	—
27	119·5	202·9		—		+·0023	—	− 5·9	—	—
32	126·6	184·0		49·8		+·0006	−·0052	− 0·7	− 4·9	−·0048
37	126·0	169·8		35·5		−·0006	−·0061	− 1·1	− 4·6	−·0057
42	116·8	168·3		38·1		−·0008	−·0059	− 7·6	− 4·3	−·0056
47	114·9	169·0		40·0		−·0007	−·0058	− 9·1	− 4·3	−·0055
52	106·7	160·8		36·1		−·0005	−·0060	−14·8	− 3·8	−·0057
57	100·9	164·8		44·3		−·0011	−·0055	−18·9	− 3·7	−·0052
23 02	108·4	160·5	56·4	45·2	58·7	−·0015	−·0055	−13·5	− 3·4	−·0052

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
						$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
16 23 07	108·2	147·0		41·8		−·0026	−·0057	−13·7	− 2·6	−·0055
12	111·9	122·5		27·7		−·0047	−·0066	−11·1	− 1·6	−·0065
17	115·5	85·0		21·3		−·0080	−·0070	− 8·5	+ 0·9	−·0071
22	97·2	20·5		4·5		−·0136	−·0080	−21·7	+ 4·7	−·0084
27	52·0	25·5		29·7		−·0130	−·0065	−54·5	+ 5·5	−·0069
32	58·3	5·0		29·7		−·0148	−·0065	−49·9	+ 7·0	−·0070
37	70·9	34·8		43·6		−·0121	−·0056	−40·9	+ 5·5	−·0060
42	78·4	79·3		57·8		−·0082	−·0048	−35·5	+ 2·9	−·0050
47	74·5	121·3		56·3		−·0045	−·0049	−38·4	− 0·3	−·0049
52	89·7	135·0		50·7		−·0033	−·0052	−27·5	− 1·6	−·0050
57	98·7	81·5		35·9		−·0079	−·0062	−21·0	+ 1·4	−·0068
17 00 02	111·8	58·8	56·0	41·3	57·3	−·0098	−·0058	−11·6	+ 3·4	−·0061
07	111·0	85·5		60·7		−·0076	−·0047	−12·2	+ 2·4	−·0049
12	79·8	60·0		66·7		−·0098	−·0043	−34·7	+ 4·6	−·0047
17	72·7	51·0		72·6		−·0106	−·0039	−39·9	+ 5·7	−·0043
22	70·7	87·0		72·6		−·0075	−·0039	−41·3	+ 3·1	−·0041
27	80·6	78·0		78·7		−·0084	−·0035	−34·1	+ 4·1	−·0038
32	80·7	93·3		83·7		−·0070	−·0032	−34·0	+ 3·2	−·0034
37	85·3	112·9		77·7		−·0054	−·0036	−30·7	+ 1·5	−·0037
42	93·0	109·0		66·6		−·0058	−·0043	−25·2	+ 1·3	−·0044
47	94·4	102·0		66·6		−·0064	−·0043	−24·2	+ 1·8	−·0044
52	92·2	95·5		57·6		−·0070	−·0049	−25·8	+ 1·8	−·0050
57	94·9	66·5		45·8		−·0095	−·0056	−23·9	+ 3·3	−·0059
01 02	93·1	47·3	55·0	44·6	56·6	−·0113	−·0057	−25·1	+ 4·7	−·0061
07	89·2	72·0		53·6		−·0091	−·0051	−28·0	+ 3·4	−·0054
12	89·6	64·5		62·5		−·0097	−·0046	−27·9	+ 4·3	−·0049
17	92·9	76·3		49·8		−·0087	−·0054	−25·6	+ 2·8	−·0056
22	97·0	74·3		59·7		−·0089	−·0048	−22·7	+ 3·5	−·0051
27	97·7	70·5		66·6		−·0092	−·0044	−22·3	+ 4·1	−·0047
32	94·4	87·5		77·3		−·0077	−·0037	−24·8	+ 3·4	−·0040
37	92·2	86·6		81·6		−·0078	−·0035	−26·4	+ 3·6	−·0038
42	97·0	86·8		88·1		−·0078	−·0031	−23·1	+ 4·0	−·0034
47	107·6	97·5		92·9		−·0069	−·0028	−15·5	+ 3·5	−·0031
52	111·3	94·8		97·6		−·0071	−·0026	−13·0	+ 3·8	−·0029
57	113·1	104·5		103·7		−·0062	−·0022	−11·8	+ 3·4	−·0025
02 02	108·2	106·5	55·5	109·7	56·6	−·0061	−·0018	−15·4	+ 3·6	−·0021
07	113·2	116·8		114·0		−·0052	−·0016	−11·7	+ 3·1	−·0018
12	113·4	119·5		115·3		−·0049	−·0015	−11·6	+ 2·9	−·0017
17	114·0	118·5		121·8		−·0050	−·0011	−11·1	+ 3·3	−·0014
22	115·7	125·6		123·4		−·0044	−·0010	− 9·8	+ 2·9	−·0012
27	117·5	125·8		123·5		−·0043	−·0010	− 8·5	+ 2·8	−·0012
32	117·9	121·9		122·8		−·0047	−·0010	− 8·1	+ 3·1	−·0012
37	119·2	116·3		123·7		−·0051	−·0010	− 7·1	+ 3·5	−·0013
42	122·5	113·5		125·4		−·0054	−·0009	− 4·7	+ 3·8	−·0012
47	123·8	110·8		126·2		−·0056	−·0009	− 3·7	+ 4·0	−·0012
52	122·7	111·0		127·2		−·0056	−·0008	− 4·4	+ 4·1	−·0011
57	124·5	108·5		127·9		−·0058	−·0007	− 3·2	+ 4·3	−·0010
03 02	126·7	110·5	55·0	128·2	55·9	−·0056	−·0007	− 1·5	+ 4·1	−·0010
07	126·0	114·8		129·0		−·0052	−·0007	− 1·8	+ 3·8	−·0010
12	125·0	114·7		129·3		−·0052	−·0007	− 2·3	+ 3·8	−·0010
17	124·9	115·8		129·7		−·0051	−·0006	− 2·3	+ 3·8	−·0009
22	124·0	119·4		130·1		−·0048	−·0006	− 2·7	+ 3·6	−·0009
27	122·0	117·3		130·1		−·0050	−·0006	− 3·9	+ 3·7	−·0009
32	121·4	119·6		130·9		−·0048	−·0006	− 4·1	+ 3·6	−·0009
37	119·6	120·9		132·1		−·0047	−·0005	− 5·1	+ 3·6	−·0008
42	118·7	120·4		133·4		−·0047	−·0004	− 5·6	+ 3·6	−·0007
47	119·8	124·6		133·4		−·0044	−·0004	− 4·7	+ 3·4	−·0007
52	121·2	126·7		134·0		−·0042	−·0004	− 3·5	+ 3·2	−·0006
57	118·7	127·2		134·3		−·0041	−·0004	− 5·0	+ 3·1	−·0006
04 02	118·5	128·5	54·8	134·0	55·6	−·0040	−·0004	− 4·9	+ 3·1	−·0006
07	117·7	128·3		135·0		−·0040	−·0003	− 5·3	+ 3·1	−·0005
12	119·5	130·4		135·0		−·0038	−·0003	− 3·7	+ 3·0	−·0005

1844.
Toronto.

April 17.

OBSERVATIONS OF THE MAGNETOMETERS. The Declination was observed 2m. before, and the V. F 1m. after the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
17 04 17	119·9	129·9		134·5		−·0039	−·0003	− 3·3	+ 3·1	−·0005
22	114·2	131·8		135·0		−·0037	−·0003	− 7·1	+ 2·9	−·0005
27	115·5	132·6		135·0		−·0036	−·0003	− 5·9	+ 2·8	−·0005
32	111·4	136·5		135·5		−·0033	−·0003	− 8·7	+ 2·5	−·0005
37	112·0	137·4		135·5		−·0032	−·0003	− 8·0	+ 2·4	−·0005
42	112·0	138·2		136·6		−·0031	−·0002	− 7·7	+ 2·4	−·0004
47	114·1	141·6		137·5		−·0028	−·0001	− 6·0	+ 2·3	−·0003
52	114·2	145·5		138·3		−·0025	−·0001	− 5·6	+ 2·0	−·0003
57	115·1	149·0		139·1		−·0022	·0000	− 4·7	+ 1·9	−·0001
05 02	114·4	148·2	55·4	139·8	56·1	−·0023	·0000	− 5·0	+ 1·9	−·0002
07	113·2	144·1		139·6		−·0026	·0000	− 5·8	+ 2·2	−·0002
12	117·1	149·2		140·9		−·0022	+·0001	− 2·8	+ 1·9	−·0001
17	115·4	150·1		141·9		−·0021	+·0002	− 3·8	+ 1·9	·0000
22	110·2	150·7		141·9		−·0020	+·0002	− 7·4	+ 1·9	+·0001
27	110·1	152·9		143·8		−·0019	+·0003	− 7·3	+ 1·9	+·0002
32	111·0	156·0		143·8		−·0016	+·0003	− 6·5	+ 1·6	+·0002
37	110·2	158·0		145·0		−·0014	+·0004	− 6·9	+ 1·5	+·0003
42	111·1	164·7		146·6		−·0008	+·0005	− 6·2	+ 1·1	+·0004
47	110·9	166·3		147·2		−·0007	+·0005	− 6·2	+ 1·0	+·0004
52	111·9	168·4		148·5		−·0005	+·0006	− 5·1	+ 0·9	+·0005
57	111·8	168·9		148·5		−·0005	+·0006	− 5·1	+ 0·9	+·0005
06 02	111·1	167·0	56·0	148·5	56·5	−·0007	+·0006	− 5·4	+ 1·1	+·0005
07	112·3	166·6		148·9		−·0007	+·0006	− 4·5	+ 1·1	+·0005
12	111·1	169·8		149·4		−·0005	+·0006	− 5·3	+ 0·9	+·0005
17	111·5	174·4		150·0		−·0001	+·0007	− 5·0	+ 0·7	+·0007
22	110·3	179·1		151·6		+·0003	+·0007	− 5·9	+ 0·3	+·0007
27	110·2	183·4		152·1		+·0006	+·0008	− 5·9	+ 0·2	+·0008
32	109·2	184·3		152·4		+·0006	+·0008	− 6·5	+ 0·2	+·0008
37	109·0	185·5		153·9		+·0007	+·0009	− 6·6	+ 0·2	+·0009
42	109·5	186·9		154·4		+·0008	+·0009	− 6·2	+ 0·1	+·0009
47	109·0	188·4		154·9		+·0009	+·0009	− 6·5	0·0	+·0009
52	108·8	192·0		156·0		+·0012	+·0010	− 6·6	− 0·2	+·0010
57	108·1	192·4		157·6		+·0012	+·0011	− 7·0	− 0·1	+·0011
07 02	109·0	197·4	56·3	159·1	56·4	+·0016	+·0012	− 6·3	− 0·3	+·0012
07	108·0	196·1		158·7		+·0014	+·0011	− 7·0	− 0·2	+·0011
12	109·6	192·0		158·7		+·0010	+·0011	− 5·9	+ 0·1	+·0011
17	101·1	191·7		158·1		+·0010	+·0011	−11·9	+ 0·1	+·0011
22	111·1	189·2		158·4		+·0007	+·0011	− 4·7	+ 0·3	+·0011
27	112·8	192·4		158·3		+·0010	+·0011	− 3·5	+ 0·1	+·0011
32	111·2	194·0		158·6		+·0011	+·0011	− 4·7	0·0	+·0011
37	113·0	200·3		158·4		+·0016	+·0011	− 3·3	− 0·4	+·0011
42	111·0	201·4		158·3		+·0017	+·0011	− 4·7	− 0·5	+·0011
47	109·3	201·7		158·3		+·0017	+·0011	− 6·0	− 0·5	+·0011
52	106·8	206·5		158·9		+·0020	+·0011	− 7·8	− 0·8	+·0012
57	105·1	205·3		161·3		+·0019	+·0013	− 9·1	− 0·5	+·0013
08 02	107·3	204·8	56·8	162·0	56·7	+·0018	+·0013	− 7·4	− 0·4	+·0013
07	111·2	208·6		163·4		+·0022	+·0014	− 4·7	− 0·7	+·0014
12	107·8	210·8		163·5		+·0023	+·0014	− 7·2	− 0·8	+·0015
17	106·3	208·0		162·6		+·0021	+·0014	− 8·3	− 0·6	+·0014
22	107·0	205·4		162·6		+·0018	+·0014	− 8·0	− 0·3	+·0014
27	108·4	209·4		163·6		+·0022	+·0014	− 7·1	− 0·7	+·0014
32	106·7	211·6		164·0		+·0023	+·0015	− 8·3	− 0·7	+·0015
37	108·2	215·4		164·0		+·0026	+·0015	− 7·3	− 0·9	+·0016
42	108·8	210·0		163·8		+·0022	+·0015	− 7·0	− 0·6	+·0015
47	109·5	204·4		162·3		+·0017	+·0014	− 6·6	− 0·2	+·0014
52	108·9	201·2		160·1		+·0014	+·0012	− 7·1	− 0·2	+·0012
57	110·6	200·9		159·3		+·0013	+·0012	− 6·0	− 0·1	+·0012
09 02	111·4	202·0	57·7	158·3	57·5	+·0014	+·0011	− 5·4	− 0·2	+·0011
07	111·7	200·8		158·3		+·0013	+·0011	− 5·3	− 0·2	+·0011
12	111·0	205·5		158·3		+·0017	+·0011	− 6·0	− 0·5	+·0011
17	111·0	206·8		158·9		+·0019	+·0012	− 6·1	− 0·6	+·0012
22	109·5	203·0		158·4		+·0016	+·0012	− 7·3	− 0·3	+·0012

1844.
Toronto.

April 17.

OBSERVATIONS OF THE MAGNETOMETERS. The Declination was observed 2m. before, and the V. F. 1m. after the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
17 09 27	109·0	199·0		156·4		+·0012	+·0010	− 7·7	− 0·2	+·0010
32	109·0	189·5		155·2		+·0004	+·0010	− 7·8	+ 0·5	+·0010
37	110·4	186·1		154·9		+·0001	+·0010	− 6·9	+ 0·8	+·0009
42	110·6	187·3		155·2		+·0003	+·0010	− 6·9	+ 0·6	+·0010
47	111·8	188·4		156·2		+·0004	+·0010	− 6·2	+ 0·5	+·0010
52	113·4	193·5		157·7		+·0008	+·0011	− 5·0	+ 0·2	+·0011
57	114·5	197·5		157·7		+·0012	+·0011	− 4·4	− 0·1	+·0011
10 02	116·6	199·5	58·5	157·7	58·1	+·0014	+·0012	− 3·0	− 0·2	+·0012
07	116·6	203·4		157·3		+·0017	+·0011	− 3·1	− 0·5	+·0011
12	114·5	210·1		157·6		+·0023	+·0011	− 4·7	− 1·0	+·0012
17	109·7	209·5		156·8		+·0022	+·0011	− 8·3	− 0·9	+·0012
22	106·7	209·9		157·1		+·0022	+·0011	−10·5	− 0·9	+·0012
27	104·0	212·6		159·4		+·0025	+·0012	−12·6	− 1·1	+·0013
32	103·3	207·6		159·4		+·0020	+·0012	−13·2	− 0·7	+·0012
37	104·6	205·6		160·4		+·0018	+·0013	−12·3	− 0·4	+·0013
42	104·5	205·4		160·7		+·0018	+·0013	−12·5	− 0·4	+·0013
47	103·9	198·9		160·2		+·0012	+·0013	−13·1	+ 0·1	+·0013
52	105·0	195·2		160·3		+·0008	+·0013	−12·3	+ 0·4	+·0013
57	106·9	191·9		160·3		+·0005	+·0013	−11·2	+ 0·7	+·0013
11 02	112·5	196·3	58·8	159·5	58·1	+·0009	+·0012	− 7·2	+ 0·2	+·0012
07	110·6	200·2		158·4		+·0013	+·0011	− 8·7	− 0·2	+·0011
12	108·5	197·6		157·0		+·0011	+·0011	−10·2	0·0	+·0011
17	107·0	195·1		157·0		+·0009	+·0011	−11·3	+ 0·2	+·0011
22	108·9	194·5		157·8		+·0009	+·0011	−10·0	+ 0·2	+·0011
27	109·0	189·6		156·3		+·0005	+·0010	−10·0	+ 0·4	+·0010
32	110·0	181·8		154·8		−·0002	+·0009	− 9·4	+ 0·9	+·0008
37	112·2	180·5		154·5		−·0003	+·0009	− 7·8	+ 1·0	+·0008
42	115·2	180·6		153·3		−·0002	+·0008	− 5·6	+ 0·9	+·0007
47	114·8	181·2		152·6		−·0002	+·0008	− 6·1	+ 0·9	+·0007
52	113·1	182·4		152·4		·0000	+·0008	− 7·3	+ 0·7	+·0008
57	111·9	182·1		153·6		·0000	+·0009	− 8·2	+ 0·8	+·0008
12 02	113·1	181·9	58·8	153·5	58·2	·0000	+·0009	− 7·4	+ 0·8	+·0008
13 02	120·0	188·9	57·8	156·3	57·7	+·0006	+·0010	− 3·0	+ 0·3	+·0010
14 02	114·8	167·3	56·9	152·5	57·2	−·0012	+·0008	− 7·8	+ 1·7	+·0007
15 02	122·0	168·0	56·0	144·8	56·5	−·0012	+·0003	− 3·4	+ 1·3	+·0002

1843.
Van Diemen Island.

April 16.

For Mean Monthly Readings, *see* page 320.

VAN DIEMEN ISLAND, 1844. APRIL 16—17.										
16 20 02	88·0	95·0	53·2	116·1	52·2	−·0017	+·0005	+ 7·4	+ 2·4	+·0003
21 02	86·6	91·6	53·6	137·6	52·3	−·0024	+·0013	+ 7·2	+ 4·0	+·0009
07	90·6	87·4		135·6		−·0033	+·0012	+10·1	+ 4·8	+·0007
12	85·2	83·8		127·9		−·0041	+·0009	+ 6·4	+ 5·4	+·0004
17	76·9	87·6		139·8		−·0033	+·0014	+ 0·6	+ 5·1	+·0009
22	80·4	87·0		140·9		−·0034	+·0014	+ 3·2	+ 5·2	+·0009
27	86·5	83·0		144·5		−·0044	+·0015	+ 7·6	+ 6·4	+·0008
32	87·2	81·1		145·4		−·0048	+·0016	+ 8·2	+ 6·9	+·0009
37	79·8	81·1		147·0		−·0048	+·0016	+ 3·1	+ 6·9	+·0009
42	82·0	79·3		149·2		−·0052	+·0017	+ 4·7	+ 7·4	+·0009
47	77·1	78·4		149·6		−·0054	+·0017	+ 1·4	+ 7·6	+·0009
52	75·8	77·5		149·6		−·0056	+·0018	+ 0·5	+ 8·0	+·0010
57	73·7	75·5		149·0		−·0061	+·0017	− 0·9	+ 8·4	+·0008
22 02	69·0	77·3	53·2	148·1	52·4	−·0057	+·0017	− 4·1	+ 8·0	+·0009
07	69·8	79·7		150·9		−·0051	+·0018	− 3·5	+ 7·4	+·0010
12	74·1	79·8		151·4		−·0051	+·0018	− 0·4	+ 7·4	+·0010
17	75·4	78·4		152·4		−·0054	+·0019	+ 0·6	+ 7·9	+·0011
22	75·7	77·7		150·7		−·0055	+·0018	+ 0·9	+ 7·9	+·0010
27	72·7	77·0		149·3		−·0057	+·0018	− 1·3	+ 8·1	+·0010
32	70·0	77·0		147·1		−·0057	+·0017	− 3·1	+ 8·0	+·0009
37	65·8	79·7		144·2		−·0051	+·0016	− 6·0	+ 7·2	+·0009
42	66·7	80·6		142·8		−·0049	+·0016	− 5·4	+ 7·0	+·0009

1844.
Van Diemen Island.

April 16—17.

OBSERVATIONS OF THE MAGNETOMETERS. The Declination was observed 2m. before, and the V. F. 1m. after the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
16 22 47	66·2	80 ·		139·7		−·0049	+·0015	− 5·7	+ 6·9	+·0008
52	66·8	79·9		138·1		−·0050	+·0014	− 5·2	+ 6·9	+·0007
57	66·0	78·6		138·1		−·0053	+·0014	− 5·8	+ 7·2	+·0007
23 02	63·3	79·2	53·6	135·7	52·8	−·0052	+·0013	− 7·6	+ 7·0	+·0006
07	63·7	79·0		136·0		−·0052	+·0014	− 7·2	+ 7·1	+·0007
12	61·3	80·7		128·0		−·0048	+·0011	− 8·8	+ 6·4	+·0004
17	59·8	83·3		127·7		−·0042	+·0011	− 9·8	+ 5·7	+·0005
22	59·1	84·5		120·6		−·0039	+·0008	−10·2	+ 5·1	+·0003
27	58·5	82·9		118·0		−·0043	+·0007	−10·6	+ 5·4	+·0002
32	58·2	80·5		125·7		−·0048	+·0010	−10·7	+ 6·3	+·0004
37	56·7	79·0		120·6		−·0051	+·0008	−11·6	+ 6·4	+·0001
42	55·2	79·6		121·1		−·0050	+·0009	−12·6	+ 6·4	+·0001
47	57·0	80·0		121·6		−·0049	+·0009	−11·3	+ 6·3	+·0003
52	55·5	76·4		119·8		−·0057	+·0008	−12·2	+ 7·0	+·0001
57	52·7	74·4		115·9		−·0062	+·0007	−14·1	+ 7·4	+·0001
17 00 02	51·9	74·7	54·2	120·8	53·0	−·0061	+·0009	−14·6	+ 7·5	+·0001
07	50·6	76·4		121·5		−·0057	+·0009	−15·6	+ 7·1	+·0002
12	56·1	76·1		120·5		−·0058	+·0009	−11·6	+ 7·2	+·0002
17	57·3	73·4		120·5		−·0064	+·0009	−10·7	+ 7·9	+·0001
22	56·4	71·9		121·3		−·0068	+·0009	−11·4	+ 8·3	·0000
27	52·3	71·5		120·3		−·0069	+·0009	−14·3	+ 8·4	·0000
32	42·3	71·5		105·3		−·0069	+·0004	−21·3	+ 7·9	−·0004
37	32·6	82·1		104·4		−·0045	+·0003	−28·2	+ 5·2	−·0002
42	44·1	89·6		89·2		−·0028	−·0002	−20·0	+ 2·8	−·0005
47	42·2	89·5		74·9		−·0028	−·0007	−21·4	+ 2·3	−·0009
52	35·8	96·5		56·2		−·0012	−·0014	−25·8	− 0·2	−·0014
57	27·5	110·1		50·1		+·0019	−·0016	−31·7	− 3·8	−·0012
01 02	49·0	—	54·3	—	53·2	—	—	−16·5	—	—
07	53·6	100·2		48·2		−·0003	−·0017	−13·2	− 1·5	−·0016
12	51·9	94·7		52·5		−·0016	−·0015	−14·4	+ 0·1	−·0015
17	50·4	91·7		56·9		−·0023	−·0014	−15·5	+ 1·0	−·0015
22	46·5	93·7		61·8		−·0018	−·0012	−18·3	+ 0·7	−·0013
27	48·3	95·6		63·8		−·0013	−·0011	−17·0	+ 0·2	−·0011
32	49·2	95·7		62·8		−·0013	−·0012	−16·3	+ 0·1	−·0012
37	48·8	94·8		61·8		−·0015	−·0012	−16·5	+ 0·3	−·0012
42	46·3	93·7		59·8		−·0018	−·0013	−18·3	+ 0·5	−·0014
47	45·4	92·5		62·0		−·0020	−·0012	−19·0	+ 0·9	−·0013
52	45·2	90·6		63·3		−·0025	−·0011	−19·1	+ 1·5	−·0012
57	44·8	89·5		65·7		−·0027	−·0011	−19·4	+ 1·7	−·0013
02 02	45·1	88·2	54·2	69·1	53·2	−·0030	−·0009	−19·2	+ 2·3	−·0011
07	44·8	85·8		71·6		−·0035	−·0008	−19·5	+ 2·9	−·0011
12	44·6	84·9		73·2		−·0038	−·0008	−19·7	+ 3·2	−·0011
17	43·5	84·6		74·8		−·0038	−·0007	−20·5	+ 3·3	−·0010
22	43·8	84·0		75·8		−·0040	−·0007	−20·3	+ 3·6	−·0011
27	43·8	83·0		75·8		−·0042	−·0006	−20·4	+ 3·9	−·0010
32	43·3	81·3		76·7		−·0046	−·0006	−20·8	+ 4·3	−·0010
37	44·8	79·9		82·0		−·0049	−·0004	−19·7	+ 4·8	−·0009
42	49·5	81·0		88·0		−·0047	−·0002	−16·5	+ 4·8	−·0007
47	53·2	86·1		83·6		−·0036	−·0003	−13·9	+ 3·6	−·0007
52	53·6	90·7		71·9		−·0025	−·0007	−13·7	+ 1·9	−·0009
57	53·1	92·5		63·0		−·0021	−·0011	−14·1	+ 1·1	−·0012
03 02	51·2	92·2	54·0	56·5	53·4	−·0022	−·0013	−15·5	+ 1·0	−·0014
07	51·2	90·2		52·6		−·0027	−·0014	−15·6	+ 1·4	−·0015
12	48·4	88·3		51·6		−·0031	−·0014	−17·5	+ 1·8	−·0016
17	45·8	88·5		50·9		−·0030	−·0015	−19·5	+ 1·6	−·0017
22	45·3	88·8		51·2		−·0030	−·0014	−19·8	+ 1·7	−·0016
27	45·6	86·7		51·8		−·0035	−·0014	−19·7	+ 2·3	−·0016
32	44·2	85·3		53·4		−·0038	−·0013	−20·7	+ 2·7	−·0016
37	43·1	84·0		55·2		−·0041	−·0013	−21·5	+ 3·0	−·0016
42	44·1	83·3		59·1		−·0043	−·0011	−20·8	+ 3·5	−·0014
47	46·0	83·5		60·5		−·0042	−·0011	−19·5	+ 3·3	−·0014
52	47·9	85·1		63·5		−·0038	−·0009	−18·2	+ 3·1	−·0012
57	51·5	86·5		64·6		−·0035	−·0009	−15·7	+ 2·8	−·0012

1844.
Van Diemen Island.

April 17.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
						$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta \psi$	$\Delta \theta$	$\frac{\Delta \phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
17 04 02	60·4	92·7	54·0	65·0	53·8	−·0021	−·0009	− 9·4	+ 1·3	−·0010
07	67·5	93·8		65·9		−·0018	−·0009	− 4·5	+ 1·0	−·0010
12	72·7	94·8		60·2		−·0016	−·0011	− 0·9	+ 0·5	−·0012
17	72·4	95·1		56·6		−·0015	−·0012	− 1·2	+ 0·3	−·0012
22	72·5	94·6		56·9		−·0016	−·0012	− 1·3	+ 0·4	−·0012
27	72·5	95·3		56·3		−·0014	−·0012	− 1·4	+ 0·2	−·0012
32	72·7	—		—		—	—	− 1·4	—	—
05 02	82·9	95·2	54·0	64·5	53·8	−·0014	−·0010	+ 5·0	+ 0·4	−·0010
07	82·9	95·3		60·0		−·0014	−·0011	+ 5·0	+ 0·3	−·0011
12	83·9	96·1		59·9		−·0012	−·0011	+ 5·7	+ 0·1	−·0011
17	85·0	96·3		61·7		−·0011	−·0010	+ 6·5	+ 0·1	−·0010
22	87·0	96·6		62·3		−·0011	−·0010	+ 7·9	+ 0·1	−·0010
27	88·1	96·9		62·5		−·0010	−·0010	+ 8·7	0·0	−·0010
32	88·8	96·9		61·5		−·0011	−·0010	+ 9·1	+ 0·1	−·0010
37	87·8	98·3		56·1		−·0007	−·0012	+ 8·4	− 0·5	−·0011
42	86·3	99·2		55·4		−·0005	−·0012	+ 7·3	− 0·8	−·0011
47	85·8	100·0		50·4		−·0003	−·0014	+ 7·0	− 1·2	−·0013
52	82·9	99·7		47·5		−·0004	−·0015	+ 4·8	− 1·2	−·0014
57	82·0	100·5		47·6		−·0003	−·0015	+ 4·2	− 1·3	−·0014
06 02	83·8	99·3	54·2	47·1	53·8	−·0005	−·0015	+ 5·5	− 1·1	−·0014
07	84·9	97·8		50·9		−·0009	−·0013	+ 6·3	− 0·4	−·0013
12	86·3	97·1		54·1		−·0010	−·0012	+ 7·2	− 0·2	−·0012
17	88·2	95·9		58·0		−·0013	−·0011	+ 8·5	+ 0·2	−·0011
22	91·6	94·9		63·0		−·0015	−·0009	+10·9	+ 0·7	−·0010
27	93·0	95·0		65·6		−·0015	−·0008	+11·9	+ 0·8	−·0009
32	94·9	95·5		66·2		−·0013	−·0008	+13·2	+ 0·5	−·0009
37	95·5	94·5		68·5		−·0016	−·0007	+13·6	+ 1·0	−·0008
42	97·1	95·2		70·7		−·0014	−·0006	+14·8	+ 0·9	−·0007
47	99·6	97·8		68·3		−·0008	−·0007	+16·5	+ 0·1	−·0007
52	98·8	101·0		61·5		·0000	−·0009	+15·9	− 1·0	−·0008
57	97·8	102·7		58·9		+·0004	−·0010	+15·2	− 1·5	−·0009
07 02	97·4	103·5	54·5	53·6	53·7	+·0006	−·0012	+14·9	− 1·9	−·0010
07	96·2	104·2		49·6		+·0007	−·0014	+14·1	− 2·3	−·0012
12	95·3	104·6		46·5		+·0008	−·0015	+13·5	− 2·5	−·0012
17	94·8	103·9		44·5		+·0006	−·0015	+13·1	− 2·3	−·0013
22	93·3	101·8		46·5		+·0001	−·0015	+12·1	− 1·7	−·0013
27	92·4	100·1		48·8		−·0003	−·0014	+11·4	− 1·2	−·0013
32	92·2	99·6		51·6		−·0004	−·0013	+11·4	− 1·0	−·0012
37	92·8	98·7		59·7		−·0006	−·0010	+11·8	− 0·4	−·0010
42	93·7	97·9		61·2		−·0008	−·0009	+12·4	− 0·1	−·0009
47	94·9	97·9		60·8		−·0008	−·0009	+13·3	− 0·1	−·0009
52	95·5	98·4		61·5		−·0007	−·0009	+13·8	− 0·2	−·0009
57	95·2	97·5		61 4		−·0009	−·0009	+13·6	0·0	−·0009
08 02	94·0	96·9	54·5	61·9	53·7	−·0011	−·0009	+12·9	+ 0·2	−·0009
07	92·2	96·5		61·1		−·0011	−·0009	+11·5	+ 0·2	−·0009
12	90·5	96·6		61·6		−·0011	−·0009	+10·3	+ 0·2	−·0009
17	90·5	97·1		62·7		−·0010	−·0008	+10·4	+ 0·2	−·0008
22	90·4	97·1		62·6		−·0010	−·0008	+10·3	+ 0·2	−·0008
27	90·1	96·6		61·8		−·0011	−·0009	+10·2	+ 0·2	−·0009
32	90·3	96·2		63·9		−·0012	−·0008	+10·3	+ 0·4	−·0008
37	90·3	95·2		61·0		−·0014	−·0009	+10·4	+ 0·5	−·0010
42	90·2	94·9		66·3		−·0015	−·0007	+10·4	+ 0·9	−·0008
47	89·6	94·8		66·7		−·0015	−·0007	+ 9·9	+ 0·9	−·0008
52	87·8	94·5		66·7		−·0016	−·0007	+ 8·7	+ 1·0	−·0008
57	87·6	93·9		67·3		−·0017	−·0007	+ 8·6	+ 1·1	−·0008
09 02	87·1	93·2	54·4	68·9	53·6	−·0019	−·0006	+ 8·3	+ 1·4	−·0007
07	87·4	93·3		69·7		−·0019	−·0006	+ 8·5	+ 1·4	−·0007
12	87·5	93·0		69·9		−·0019	−·0006	+ 8·7	+ 1·4	−·0007
17	86·2	93·0		69·5		−·0019	−·0006	+ 7·7	+ 1·4	−·0007
22	85·2	92·0		71·1		−·0021	−·0005	+ 7·0	+ 1·7	−·0007
27	84·7	90·5		72·6		−·0025	−·0005	+ 6·7	+ 2·2	−·0007
32	84·2	88·9		76·0		−·0028	−·0004	+ 6·4	+ 2·6	−·0007

1844. Van Diemen Island. — April 17.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
17 09 37	84·6	87·5		80·4		−·0031	−·0002	+ 6·7	+ 3·1	−·0005
42	85·4	87·0		85·3		−·0033	·0000	+ 7·2	+ 3·6	−·0004
47	86·2	86·4		89·8		−·0034	+·0001	+ 7·8	+ 3·8	−·0003
52	89·8	84·9		94·6		−·0037	+·0003	+10·4	+ 4·3	−·0001
57	91·6	85·1		97·7		−·0036	+·0004	+11·7	+ 4·3	·0000
10 02	94·2	85·8	54·3	99·7	53·6	−·0035	+·0005	+13·6	+ 4·3	+·0001
07	94·1	87·4		97·7		−·0031	+·0004	+13·6	+ 3·8	·0000
12	94·5	88·6		96·5		−·0028	+·0004	+14·0	+ 3·5	+·0001
17	94·6	91·0		91·9		−·0023	+·0002	+14·2	+ 2·7	−·0001
22	94·7	92·3		86·0		−·0020	·0000	+14·3	+ 2·2	−·0002
27	92·1	92·5		80·7		−·0019	−·0002	+12·6	+ 1·8	−·0004
32	90·4	92·2		78·1		−·0020	−·0003	+11·5	+ 1·8	−·0005
37	89·2	92·4		77·1		−·0020	−·0003	+10·8	+ 1·8	−·0005
42	89·1	92·0		76·5		−·0021	−·0004	+10·8	+ 1·8	−·0006
47	87·9	92·7		76·0		−·0019	−·0004	+10·1	+ 1·6	−·0006
52	87·4	92·6		74·7		−·0019	−·0004	+ 9·8	+ 1·6	−·0006
57	86·1	92·8		74·1		−·0019	−·0004	+ 9·0	+ 1·6	−·0006
11 02	86·0	91·9	54·1	73·9	53·4	−·0021	−·0004	+ 9·0	+ 1·8	−·0006
07	85·0	90·7		74·2		−·0023	−·0004	+ 8·4	+ 2·0	−·0006
12	83·5	89·7		75·3		−·0025	−·0004	+ 7·4	+ 2·3	−·0006
17	82·7	89·9		77·1		−·0024	−·0004	+ 6·8	+ 2·2	−·0006
22	82·0	90·2		77·7		−·0023	−·0004	+ 6·4	+ 2·0	−·0006
27	82·9	91·5		78·0		−·0020	−·0004	+ 7·1	+ 1·7	−·0006
32	83·0	91·4		77·9		−·0020	−·0004	+ 7·2	+ 1·7	−·0006
37	82·1	90·8		78·0		−·0021	−·0004	+ 6·6	+ 1·8	−·0006
42	81·6	90·3		78·7		−·0022	−·0004	+ 6·3	+ 1·9	−·0006
47	81·6	—		—		—	—	+ 6·4	—	—
12 02	81·0	91·0	54·0	81·4	53·2	−·0019	−·0003	+ 6·1	+ 1·7	−·0005

1844. St. Helena. — April.

ST. HELENA, 1844. APRIL 16—18.

MEAN MONTHLY READINGS OF THE MAGNETOMETERS.

Mean Göttingen Time.	Declination.	H. F. at 71°·3.	V. F. at 71°·0.	Mean Göttingen Time.	Declination.	H. F. at 71°·3.	V. F. at 71°·0.
Hours.	Sc. Div.	Sc. Div.	Sc. Div.	Hours.	Sc. Div.	Sc. Div.	Sc. Div.
00	200·8	59·3	13·0	12	199·3	52·2	13·8
01	201·7	59·6	13·5	13	199·7	53·0	13·6
02	200·5	58·8	14·0	14	199·6	53·0	13·4
03	199·3	57·2	14·3	15	199·7	53·1	13·3
04	199·1	55·8	14·5	16	199·8	53·2	13·3
05	198·7	54·3	14·7	17	199·8	53·5	13·1
06	198·6	53·1	14·7	18	199·9	53·6	13·0
07	198·5	52·5	14·6	19	200·2	53·5	12·5
08	198·7	52·0	14·4	20	199·5	54·0	12·3
09	199·0	52·1	14·3	21	197·5	55·2	12·3
10	198·9	52·3	14·1	22	196·8	57·1	12·3
11	199·2	52·1	14·1	23	198·2	58·7	12·3

Coefficients (A), Approximate Absolute Values (B).

(A)
- Declin. $a = 0'·712$
- H. F. $\begin{cases} k = ·00021 \\ q = ·00028 \end{cases}$
- V. F. $\begin{cases} k = ·00079 \\ q = ·00002 \end{cases}$

(B) Approx. $\begin{cases} \psi = 23° 18' \\ X = 5·57 \\ Y = 2·23 \\ \theta = -21° 48' \\ \phi = 6·00 \end{cases}$

1844.
St. Helena.
April 16—17.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
						$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta \psi$	$\Delta \theta$	$\frac{\Delta \phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
16 21 02	196·2	49·8	69·6	14·3	69·3	−·0017	+·0016	− 0·9	+ 3·9	−·0013
22 02	197·0	44·0	69·9	13·6	69·3	−·0031	+·0010	+ 0·1	+ 4·8	−·0026
42	196·8	—		—		—	—	− 0·6	—	—
47	197·0	—		—		—	—	− 0·6	—	—
52	197·1	—		—		—	—	− 0·6	—	—
57	197·2	41·0		11·5		−·0039	−·0006	− 0·6	+ 3·9	−·0035
23 02	197·0	40·4	70·7	11·6	70·3	−·0040	−·0006	− 0·8	+ 4·0	−·0035
07	197·0	39·6		11·7		−·0042	−·0006	− 1·0	+ 4·2	−·0037
12	197·2	39·0		11·9		−·0043	−·0004	− 1·0	+ 4·6	−·0038
17	197·2	38·9		12·2		−·0043	−·0002	− 1·1	+ 4·8	−·0038
22	197·0	37·8		12·2		−·0045	−·0002	− 1·5	+ 5·0	−·0039
27	197·3	37·0		12·2		−·0047	−·0003	− 1·4	+ 5·2	−·0041
32	197·8	37·1		12·4		−·0047	−·0002	− 1·2	+ 5·3	−·0041
37	197·9	36·5		12·4		−·0048	−·0002	− 1·3	+ 5·4	−·0042
42	198·0	35·9		12·3		−·0049	−·0004	− 1·3	+ 5·3	−·0043
47	198·0	34·9		12·5		−·0051	−·0002	− 1·5	+ 5·8	−·0044
52	198·4	34·8		12·6		−·0051	−·0002	− 1·4	+ 5·8	−·0044
57	198·9	35·5		12·8		−·0050	−·0001	− 1·2	+ 5·8	−·0043
17 00 02	199·4	35·0	71·4	12·8	70·9	−·0051	−·0002	− 1·0	+ 5·8	−·0044
07	199·4	34·3		12·8		−·0052	−·0002	− 1·1	+ 5·9	−·0045
12	199·3	34·3		12·8		−·0052	−·0002	− 1·2	+ 5·9	−·0045
17	199·8	34·5		13·0		−·0052	−·0001	− 0·8	+ 6·0	−·0045
22	199·8	34·2		13·2		−·0052	·0000	− 0·9	+ 6·1	−·0045
27	200·0	34·9		13·3		−·0051	+·0001	− 0·8	+ 6·1	−·0044
32	200·4	35·0		13·4		−·0051	+·0002	− 0·6	+ 6·2	−·0044
37	200·0	35·1		13·4		−·0050	+·0001	− 0·9	+ 6·0	−·0043
42	199·0	35·1		13·4		−·0050	+·0001	− 1·7	+ 6·0	−·0043
47	198·8	34·8		13·4		−·0051	·0000	− 1·9	+ 6·0	−·0044
52	198·0	34·0		13·6		−·0052	+·0002	− 2·5	+ 6·4	−·0045
57	197·9	32·1		13·6		−·0056	+·0001	− 2·6	+ 6·7	−·0048
01 02	197·2	31·2	71·9	13·8	71·3	−·0058	+·0002	− 3·2	+ 7·1	−·0050
07	198·1	30·8		14·0		−·0058	+·0004	− 2·5	+ 7·3	−·0050
12	198·2	30·6		14·0		−·0059	+·0003	− 2·3	+ 7·3	−·0051
17	198·1	30·7		14·1		−·0058	+·0004	− 2·3	+ 7·3	−·0050
22	198·1	31·4		14·1		−·0056	+·0003	− 2·2	+ 6·9	−·0048
27	197·3	31·8		14·5		−·0055	+·0006	− 2·7	+ 7·2	−·0047
32	197·1	32·2		14·7		−·0054	+·0008	− 2·8	+ 7·3	−·0046
37	196·9	32·4		14·6		−·0053	+·0006	− 2·9	+ 6·9	−·0045
42	196·5	32·8		14·5		−·0052	+·0006	− 3·1	+ 6·8	−·0044
47	196·1	32·8		14·5		−·0052	+·0005	− 3·3	+ 6·7	−·0044
52	196·0	32·9		14·5		−·0051	+·0005	− 3·3	+ 6·6	−·0043
57	195·9	33·0		14·8		−·0051	+·0006	− 3·3	+ 6·7	−·0043
02 02	195·2	33·0	72·7	14·8	72·1	−·0050	+·0006	− 3·8	+ 6·6	−·0042
07	195·1	33·4		14·9		−·0049	+·0007	− 3·8	+ 6·6	−·0041
12	195·1	33·6		14·9		−·0048	+·0006	− 3·7	+ 6·4	−·0041
17	194·9	34·0		14·9		−·0047	+·0006	− 3·8	+ 6·2	−·0040
22	194·8	34·0		14·9		−·0047	+·0006	− 3·8	+ 6·2	−·0040
27	194·4	34·0		15·0		−·0046	+·0007	− 4·0	+ 6·2	−·0039
32	193·9	34·0		15·0		−·0046	+·0006	− 4·3	+ 6·1	−·0039
37	193·6	33·7		15·1		−·0047	+·0007	− 4·4	+ 6·4	−·0040
42	193·2	33·0		15·0		−·0048	+·0006	− 4·7	+ 6·4	−·0041
47	192·9	32·7		15·0		−·0048	+·0006	− 4·8	+ 6·4	−·0041
52	192·9	32·6		14·9		−·0048	+·0005	− 4·7	+ 6·2	−·0041
57	193·0	32·9		14·9		−·0047	+·0005	− 4·6	+ 6·1	−·0040
03 02	193·0	32·9	73·0	15·1	72·7	−·0046	+·0006	− 4·5	+ 6·1	−·0039
07	193·0	33·1		15·1		−·0046	+·0006	− 4·5	+ 6·1	−·0039
12	193·1	33·0		15·4		−·0045	+·0009	− 4·4	+ 6·4	−·0038
17	193·1	32·9		15·4		−·0045	+·0009	− 4·4	+ 6·4	−·0038
22	193·0	32·9		15·4		−·0045	+·0008	− 4·4	+ 6·2	−·0038
27	193·0	32·8		15·6		−·0044	+·0010	− 4·4	+ 6·4	−·0037
32	193·0	32·4		15·6		−·0045	+·0010	− 4·4	+ 6·5	−·0038
37	193·0	32·2		15·6		−·0045	+·0010	− 4·4	+ 6·5	−·0038

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The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
						$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta \psi$	$\Delta \theta$	$\frac{\Delta \phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
17 03 42	194·0	32·2		15·8		−·0044	+·0012	− 3·7	+ 6·6	−·0036
47	194·0	32·0		15·8		−·0044	+·0012	− 3·7	+ 6·6	−·0036
52	193·8	31·9		15·8		−·0044	+·0011	− 3·8	+ 6·5	−·0037
57	193·8	31·4		16·0		−·0044	+·0013	− 3·8	+ 6·7	−·0036
04 02	193·4	31·1	73·9	16·0	73·3	−·0045	+·0013	− 4·1	+ 6·8	−·0037
07	193·3	31·0		16·0		−·0045	+·0013	− 4·2	+ 6·8	−·0037
12	193·2	30·8		16·0		−·0045	+·0013	− 4·2	+ 6·8	−·0037
17	193·0	30·4		15·9		−·0045	+·0012	− 4·3	+ 6·7	−·0037
22	193·0	30·0		15·7		−·0046	+·0010	− 4·3	+ 6·6	−·0038
27	193·0	30·0		15·7		−·0046	+·0010	− 4·2	+ 6·6	−·0038
32	192·9	30·1		15·7		−·0045	+·0010	− 4·3	+ 6·5	−·0038
37	192·5	30·3		15·7		−·0044	+·0010	− 4·6	+ 6·4	−·0037
42	192·2	30·9		15·7		−·0043	+·0010	− 4·7	+ 6·2	−·0036
47	192·2	31·0		15·9		−·0042	+·0011	− 4·7	+ 6·2	−·0035
52	192·1	31·1		15·9		−·0042	+·0010	− 4·8	+ 6·1	−·0035
57	192·1	31·0		15·9		−·0042	+·0010	− 4·7	+ 6·1	−·0035
05 02	192·3	31·0	73·9	16·0	73·6	−·0042	+·0011	− 4·6	+ 6·2	−·0035
07	192·5	30·9		16·0		−·0042	+·0011	− 4·4	+ 6·2	−·0035
12	192·3	30·8		16·2		−·0042	+·0013	− 4·6	+ 6·5	−·0035
17	192·2	30·7		16·2		−·0042	+·0013	− 4·7	+ 6·5	−·0035
22	192·1	30·7		16·2		−·0041	+·0013	− 4·7	+ 6·4	−·0034
27	192·0	30·6		16·3		−·0041	+·0013	− 4·8	+ 6·4	−·0034
32	192·0	30·8		16·2		−·0041	+·0013	− 4·8	+ 6·4	−·0034
37	192·0	31·2		16·3		−·0040	+·0013	− 4·7	+ 6·2	−·0033
42	192·1	31·4		16·3		−·0039	+·0013	− 4·4	+ 6·1	−·0032
47	192·5	31·4		16·3		−·0039	+·0013	− 4·0	+ 6·1	−·0032
52	192·6	31·6		16·3		−·0038	+·0013	− 4·3	+ 6·0	−·0031
57	193·0	31·6		16·3		−·0038	+·0013	− 4·0	+ 6·0	−·0031
06 02	193·0	31·7	73·9	16·3	73·6	−·0038	+·0013	− 4·0	+ 6·0	−·0031
07	193·0	31·2		16·3		−·0038	+·0013	− 4·0	+ 6·0	−·0031
12	192·2	31·2		16·3		−·0038	+·0013	− 4·6	+ 6·0	−·0031
17	192·0	31·0		16·2		−·0039	+·0013	− 4·7	+ 6·1	−·0032
22	192·0	30·9		16·2		−·0039	+·0013	− 4·7	+ 6·1	−·0032
27	191·5	30·8		16·2		−·0039	+·0013	− 5·1	+ 6·1	−·0032
32	191·5	30·7		16·2		−·0039	+·0013	− 5·1	+ 6·1	−·0032
37	191·4	30·7		16·2		−·0039	+·0013	− 5·1	+ 6·1	−·0032
42	190·7	30·7		16·2		−·0039	+·0013	− 5·6	+ 6·1	−·0032
47	190·7	30·8		16·2		−·0038	+·0013	− 5·6	+ 6·0	−·0031
52	190·8	30·8		16·2		−·0038	+·0013	− 5·5	+ 6·0	−·0031
57	191·0	30·5		16·2		−·0039	+·0013	− 5·4	+ 6·1	−·0032
07 02	191·0	30·3	73·9	15·9	73·9	−·0039	+·0011	− 5·4	+ 5·9	−·0032
07	191·1	30·2		15·9		−·0040	+·0011	− 5·3	+ 6·0	−·0033
12	191·1	30·0		15·8		−·0040	+·0010	− 5·3	+ 5·9	−·0033
17	191·1	29·7		15·6		−·0040	+·0009	− 5·3	+ 5·8	−·0033
22	191·2	29·3		15·6		−·0041	+·0010	− 5·3	+ 6·0	−·0034
27	191·6	29·1		15·4		−·0041	+·0008	− 5·0	+ 5·8	−·0034
32	191·8	28·8		15·4		−·0042	+·0008	− 4·9	+ 5·9	−·0035
37	191·8	28·7		15·4		−·0042	+·0008	− 4·9	+ 5·9	−·0035
42	191·9	28·6		15·4		−·0042	+·0008	− 4·8	+ 5·9	−·0035
47	192·0	28·5		15·4		−·0042	+·0008	− 4·7	+ 5·9	−·0035
52	191·9	28·4		15·2		−·0042	+·0007	− 4·9	+ 5·8	−·0035
57	191·8	28·5		15·2		−·0042	+·0007	− 4·9	+ 5·8	−·0035
08 02	191·8	28·9	73·9	15·0	74·2	−·0041	+·0006	− 4·9	+ 5·5	−·0035
07	191·8	29·3		15·0		−·0041	+·0006	− 4·9	+ 5·5	−·0035
12	192·1	29·9		15·0		−·0039	+·0006	− 4·8	+ 5·3	−·0033
17	192·1	30·0		15·0		−·0039	+·0006	− 4·8	+ 5·3	−·0033
22	192·1	30·8		15·0		−·0038	+·0006	− 4·8	+ 5·2	−·0032
27	192·2	31·1		14·9		−·0037	+·0005	− 4·7	+ 4·9	−·0031
32	192·7	31·6		14·8		−·0036	+·0004	− 4·4	+ 4·7	−·0031
37	192·8	32·0		14·8		−·0036	+·0005	− 4·4	+ 4·8	−·0031
42	192·8	32·0		14·7		−·0036	+·0004	− 4·4	+ 4·7	−·0031
47	193·0	32·4		14·7		−·0035	+·0004	− 4·2	+ 4·6	−·0030

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The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
						$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
17 08 52	193·1	32·8		14·6		−·0034	+·0003	− 4·2	+ 4·3	−·0029
57	193·5	33·2		14·6		−·0034	+·0003	− 4·0	+ 4·3	−·0029
09 02	193·6	33·8	73·4	14·6	74·0	−·0033	+·0003	− 3·9	+ 4·2	−·0028
07	193·5	34·5		14·6		−·0031	+·0003	− 4·0	+ 4·0	−·0026
12	193·4	35·0		14·3		−·0030	+·0001	− 4·0	+ 3·6	−·0026
17	193·6	35·7		14·3		−·0029	+·0001	− 3·9	+ 3·5	−·0025
22	193·4	36·1		14·3		−·0028	+·0002	− 4·0	+ 3·5	−·0024
27	193·0	36·9		14·3		−·0026	+·0002	− 4·3	+ 3·3	−·0022
32	192·5	37·1		14·2		−·0026	+·0001	− 4·7	+ 3·2	−·0022
37	192·0	37·9		14·2		−·0024	+·0001	− 4·9	+ 2·9	−·0021
42	192·0	38·0		14·2		−·0024	+·0001	− 4·9	+ 2·9	−·0021
47	192·1	38·4		13·9		−·0023	−·0002	− 4·9	+ 2·5	−·0020
52	192·1	38·4		13·9		−·0024	−·0001	− 4·9	+ 2·7	−·0021
57	192·0	37·9		13·9		−·0025	−·0001	− 4·9	+ 2·8	−·0022
10 02	191·7	37·1	73·3	13·9	73·8	−·0026	−·0001	− 5·1	+ 2·9	−·0023
07	191·7	36·6		13·7		−·0028	−·0002	− 5·1	+ 3·1	−·0024
12	191·9	36·1		13·7		−·0029	−·0002	− 5·1	+ 3·2	−·0025
17	191·9	36·0		13·9		−·0029	−·0001	− 5·1	+ 3·3	−·0025
22	192·8	36·0		13·9		−·0029	−·0001	− 4·4	+ 3·3	−·0025
27	193·0	36·1		13·9		−·0029	−·0001	− 4·3	+ 3·3	−·0025
32	194·5	36·2		14·1		−·0029	+·0001	− 3·2	+ 3·5	−·0025
37	195·0	36·2		14·1		−·0029	+·0001	− 2·9	+ 3·5	−·0025
42	194·9	36·8		14·1		−·0028	+·0001	− 2·9	+ 3·4	−·0024
47	195·1	37·0		14·1		−·0027	+·0001	− 2·8	+ 3·3	−·0023
52	195·2	37·7		14·1		−·0026	+·0001	− 2·8	+ 3·2	−·0022
57	196·0	38·2		14·2		−·0025	+·0002	− 2·2	+ 3·2	−·0021
11 02	196·0	38·9	72·9	14·2	73·3	−·0023	+·0002	− 2·2	+ 2·9	−·0020
07	196·0	39·1		14·7		−·0023	+·0006	− 2·2	+ 3·4	−·0019
12	196·0	39·8		14·7		−·0022	+·0006	− 2·2	+ 3·3	−·0018
17	195·7	40·1		14·3		−·0021	+·0003	− 2·5	+ 2·8	−·0018
22	195·2	40·0		13·9		−·0022	·0000	− 2·8	+ 2·6	−·0019
27	195·1	39·8		13·7		−·0022	−·0002	− 2·9	+ 2·4	−·0019
32	195·0	39·7		—		−·0023	—	− 2·9	—	—
37	195·1	39·8		14·1		−·0023	+·0002	− 2·9	+ 2·9	−·0020
42	195·2	39·8		13·9		−·0023	·0000	− 2·9	+ 2·7	−·0020
47	195·4	39·5		13·9		−·0024	·0000	− 2·7	+ 2·8	−·0021
52	195·5	39·6		14·0		−·0024	+·0002	− 2·7	+ 3·1	−·0020
57	195·9	39·4		14·0		−·0024	+·0002	− 2·4	+ 3·1	−·0020
12 02	195·9	39·5	72·1	14·1	72·8	−·0024	+·0002	− 2·4	+ 3·1	−·0020
07	196·0	39·7		14·1		−·0024	+·0002	− 2·3	+ 3·1	−·0020
12	196·1	39·9		13·8		−·0024	·0000	− 2·3	+ 2·8	−·0021
17	196·2	40·2		13·8		−·0023	·0000	− 2·2	+ 2·7	−·0020
22	196·5	40·9		13·8		−·0022	+·0001	− 2·0	+ 2·7	−·0019
27	197·0	42·1		13·8		−·0020	+·0001	− 1·8	+ 2·5	−·0017
32	197·3	43·0		13·9		−·0018	+·0002	− 1·5	+ 2·4	−·0015
37	197·6	43·1		13·9		−·0018	+·0002	− 1·3	+ 2·4	−·0015
42	198·1	43·8		13·9		−·0017	+·0002	− 1·1	+ 2·2	−·0015
47	199·1	44·4		14·0		−·0016	+·0002	− 0·4	+ 2·1	−·0014
52	199·2	45·9		14·1		−·0013	+·0004	− 0·3	+ 2·0	−·0011
57	199·9	46·8		14·1		−·0011	+·0004	+ 0·1	+ 1·8	−·0009
13 02	200·0	48·1	72·0	14·2	72·7	−·0008	+·0005	+ 0·2	+ 1·5	−·0006
07	201·0	49·2		14·2		−·0006	+·0005	+ 0·9	+ 1·3	−·0005
12	201·0	49·6		14·2		−·0005	+·0005	+ 0·9	+ 1·2	−·0004
17	200·6	49·4		14·2		−·0006	+·0005	+ 0·6	+ 1·3	−·0005
22	199·7	49·4		14·2		−·0006	+·0006	0·0	+ 1·4	−·0004
27	199·4	49·5		14·2		−·0006	+·0006	− 0·2	+ 1·4	−·0004
32	199·1	48·1		13·8		−·0008	+·0002	− 0·4	+ 1·2	−·0007
37	199·0	47·6		13·8		−·0010	+·0002	− 0·4	+ 1·4	−·0008
42	199·1	47·0		13·3		−·0011	−·0002	− 0·4	+ 1·0	−·0010
47	199·1	46·7		13·3		−·0012	−·0002	− 0·4	+ 1·2	−·0011
52	199·6	46·8		13·3		−·0011	−·0001	0·0	+ 1·2	−·0010
57	199·8	46·6		13·3		−·0012	−·0001	+ 0·1	+ 1·3	−·0011

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OBSERVATIONS OF THE MAGNETOMETERS. The Declination was observed 2m. before, and the V. F. 1m. after the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta \psi$	$\Delta \theta$	$\frac{\Delta \phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
17 14 02	199·7	46·6	71·9	13·3	72·7	−·0012	−·0001	+ 0·1	+ 1·3	−·0011
07	199·5	46·3		13·3		−·0012	−·0001	− 0·1	+ 1·3	−·0011
12	199·1	46·3		13·3		−·0013	−·0001	− 0·4	+ 1·4	−·0011
17	198·8	46·1		13·3		−·0013	−·0001	− 0·6	+ 1·4	−·0011
22	198·4	46·1		13·3		−·0013	−·0001	− 0·8	+ 1·4	−·0011
27	197·8	45·8		13·3		−·0014	−·0001	− 1·3	+ 1·5	−·0012
32	198·0	45·9		13·2		−·0014	−·0002	− 1·1	+ 1·4	−·0012
37	198·2	45·6		13·2		−·0015	−·0001	− 1·1	+ 1·7	−·0013
42	198·3	45·7		13·1		−·0014	−·0002	− 1·0	+ 1·4	−·0012
47	198·3	45·7		12·9		−·0014	−·0003	− 1·0	+ 1·3	−·0013
52	198·1	45·7		12·9		−·0015	−·0003	− 1·1	+ 1·4	−·0013
57	198·2	45·7		12·9		−·0015	−·0003	− 1·1	+ 1·4	−·0013
15 02	198·2	45·7	71·7	12·9	72·4	−·0015	−·0003	− 1·1	+ 1·4	−·0013
07	198·3	45·9		12·8		−·0014	−·0004	− 1·0	+ 1·2	−·0013
12	198·5	46·1		12·8		−·0014	−·0004	− 0·8	+ 1·2	−·0013
17	198·6	46·1		12·5		−·0014	−·0006	− 0·8	+ 0·9	−·0013
22	198·9	46·1		12·6		−·0013	−·0006	− 0·6	+ 0·8	−·0012
27	198·9	46·4		12·6		−·0013	−·0006	− 0·6	+ 0·8	−·0012
32	198·9	46·5		12·6		−·0013	−·0006	− 0·6	+ 0·8	−·0012
37	199·0	46·6		12·6		−·0013	−·0006	− 0·6	+ 0·8	−·0012
42	199·1	47·0		12·6		−·0012	−·0006	− 0·5	+ 0·7	−·0011
47	199·2	47·5		12·9		−·0011	−·0003	− 0·4	+ 0·9	−·0010
52	199·3	47·5		12·9		−·0011	−·0003	− 0·4	+ 0·9	−·0010
57	199·0	47·3		13·3		−·0011	·0000	− 0·6	+ 1·3	−·0010
16 02	199·0	47·7	71·8	13·8	72·3	−·0010	+·0004	− 0·6	+ 1·7	−·0008
07	199·0	47·9		13·2		−·0010	−·0001	− 0·6	+ 1·0	−·0009
12	199·2	48·1		13·2		−·0010	−·0001	− 0·4	+ 1·0	−·0009
17	199·8	48·5		13·2		−·0009	−·0001	0·0	+ 0·9	−·0008
22	199·5	48·4		13·2		−·0009	·0000	− 0·2	+ 1·0	−·0008
27	199·4	48·3		13·2		−·0009	·0000	− 0·3	+ 1·0	−·0008
32	199·2	48·5		13·7		−·0009	+·0004	− 0·4	+ 1·5	−·0007
37	199·2	48·6		13·7		−·0009	+·0004	− 0·4	+ 1·5	−·0007
42	199·2	48·8		12·7		−·0008	−·0004	− 0·4	+ 0·5	−·0007
47	199·0	48·0		12·7		−·0008	−·0004	− 0·6	+ 0·5	−·0007
52	199·0	49·0		12·4		−·0008	−·0006	− 0·6	+ 0·2	−·0008
57	199·0	49·0		12·4		−·0008	−·0006	− 0·6	+ 0·2	−·0008
17 02	199·0	49·1	71·7	12·4	72·3	−·0008	−·0006	− 0·6	+ 0·2	−·0008
07	199·0	49·2		12·4		−·0008	−·0006	− 0·6	+ 0·2	−·0008
12	199·0	49·4		12·4		−·0008	−·0006	− 0·6	+ 0·2	−·0008
17	199·1	49·4		12·4		−·0008	−·0006	− 0·5	+ 0·2	−·0008
22	199·1	49·4		12·4		−·0008	−·0006	− 0·5	+ 0·2	−·0008
27	199·1	49·4		12·4		−·0008	−·0006	− 0·5	+ 0·2	−·0008
32	199·1	49·3		12·4		−·0009	−·0006	− 0·5	+ 0·3	−·0009
37	199·1	49·3		12·4		−·0009	−·0005	− 0·6	+ 0·5	−·0008
42	199·1	49·3		12·4		−·0009	−·0005	− 0·6	+ 0·5	−·0008
47	199·1	49·4		12·4		−·0009	−·0005	− 0·6	+ 0·5	−·0008
52	199·1	49·5		12·4		−·0009	−·0005	− 0·6	+ 0·5	−·0008
57	199·1	49·6		12·4		−·0009	−·0005	− 0·6	+ 0·5	−·0008
18 02	199·1	49·7	71·1	12·4	72·0	−·0009	−·0005	− 0·6	+ 0·5	−·0008
19 02	200·0	51·8	70·7	13·3	70·9	−·0005	+·0006	− 0·1	+ 1·3	−·0004
20 02	199·2	52·5	70·5	13·1	70·5	−·0006	+·0006	− 0·2	+ 1·4	−·0004
21 02	197·3	55·4	70·1	13·0	70·0	−·0003	+·0006	− 0·1	+ 1·0	−·0002
22 02	197·8	62·8	70·0	13·1	70·0	+·0008	+·0006	+ 0·7	− 0·2	+·0008
07	—	63·0		13·1		+·0009	+·0006	—	− 0·3	+·0009
12	198·0	63·0		13·1		+·0009	+·0006	+ 0·7	− 0·3	+·0009
17	198·0	62·9		13·1		+·0008	+·0006	+ 0·6	− 0·2	+·0008
22	198·0	62·8		13·1		+·0008	+·0006	+ 0·5	− 0·2	+·0008
27	198·0	62·6		13·1		+·0007	+·0005	+ 0·4	− 0·1	+·0007
32	198·0	63·0		12·9		+·0008	+·0005	+ 0·4	− 0·3	+·0008
37	198·8	63·6		12·9		+·0009	+·0005	+ 0·8	− 0·5	+·0008
42	198·8	63·1		12·9		+·0008	+·0005	+ 0·8	− 0·3	+·0008
47	198·9	63·8		12·9		+·0010	+·0005	+ 0·8	− 0·6	+·0009

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April 17—18.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
17 22 52	199·0	63·1		12·9		+·0008	+·0005	+ 0·7	− 0·3	+·0008
57	199·0	63·9		12·9		+·0009	+·0005	+ 0·6	− 0·5	+·0008
23 02	199·6	64·4	70·7	12·9	70·3	+·0010	+·0005	+ 1·0	− 0·6	+·0009
07	199·9	64·4		12·9		+·0010	+·0004	+ 1·1	− 0·7	+·0009
12	200·0	64·0		12·9		+·0010	+·0004	+ 1·0	− 0·7	+·0009
17	200·4	64·4		12·9		+·0010	+·0003	+ 1·1	− 0·8	+·0009
22	200·9	64·5		13·1		+·0011	+·0005	+ 1·3	− 0·7	+·0010
27	201·7	65·7		13·1		+·0013	+·0004	+ 1·7	− 1·0	+·0012
32	202·5	66·9		13·3		+·0015	+·0006	+ 2·1	− 1·0	+·0014
37	203·0	67·1		13·3		+·0016	+·0005	+ 2·3	− 1·3	+·0015
42	203·5	67·4		13·3		+·0016	+·0004	+ 2·5	− 1·4	+·0014
47	204·0	65·1		13·3		+·0012	+·0004	+ 2·7	− 0·9	+·0011
52	203·9	64·9		13·1		+·0011	+·0002	+ 2·5	− 1·0	+·0010
57	204·0	64·6		13·1		+·0011	+·0002	+ 2·4	− 1·0	+·0010
18 00 02	204·0	63·0	71·1	13·1	70·8	+·0007	+·0001	+ 2·2	− 0·7	+·0006
07	204·0	61·0		12·8		+·0003	−·0002	+ 2·2	− 0·6	+·0002
12	204·0	60·2		13·0		+·0002	−·0001	+ 2·1	− 0·3	+·0002
17	204·2	60·0		13·0		+·0001	−·0001	+ 2·2	− 0·2	+·0001
22	204·2	59·4		13·0		·0000	−·0002	+ 2·2	− 0·2	·0000
27	204·2	59·7		13·0		+·0001	−·0002	+ 2·1	− 0·3	+·0001
32	204·5	59·6		13·1		+·0001	−·0001	+ 2·2	− 0·2	+·0001
37	204·3	58·5		13·1		−·0002	−·0002	+ 2·1	0·0	−·0002
42	204·5	58·9		13·3		·0000	·0000	+ 2·2	0·0	·0000
47	204·8	59·5		13·3		+·0001	−·0001	+ 2·3	− 0·2	+·0001
52	205·1	61·1		13·5		+·0004	+·0001	+ 2·5	− 0·3	+·0004
57	205·4	61·9		13·5		+·0006	·0000	+ 2·7	− 0·7	+·0005
01 02	205·7	61·6	71·9	13·5	71·3	+·0006	·0000	+ 2·8	− 0·7	+·0005
07	205·5	61·2		13·6		+·0006	+·0001	+ 2·7	− 0·6	+·0005
12	205·2	60·9		13·6		+·0005	·0000	+ 2·6	− 0·6	+·0004
17	204·9	58·2		13·6		·0000	·0000	+ 2·5	0·0	·0000
22	204·3	57·4		13·6		−·0002	−·0001	+ 2·1	+ 0·1	−·0002
27	204·2	57·4		13·7		−·0002	·0000	+ 2·1	+ 0·2	−·0002
32	204·2	58·1		13·7		·0000	·0000	+ 2·2	0·0	·0000
37	204·4	58·0		13·8		·0000	·0000	+ 2·4	0·0	·0000
42	204·2	58·1		13·9		+·0001	+·0001	+ 2·3	0·0	+·0001
47	204·2	58·0		13·9		+·0001	·0000	+ 2·4	− 0·1	+·0001
52	204·1	58·8		14·3		+·0003	+·0003	+ 2·4	0·0	+·0003
57	204·0	58·2		14·3		+·0002	+·0002	+ 2·4	0·0	+·0002
02 02	203·5	57·4	72·5	14·3	72·2	·0000	+·0002	+ 2·1	+ 0·2	·0000
07	203·3	57·2		14·3		·0000	+·0002	+ 2·0	+ 0·2	·0000
12	203·1	57·2		14·6		+·0001	+·0004	+ 2·0	+ 0·3	+·0001
17	202·9	57·5		14·6		+·0002	+·0004	+ 1·9	+ 0·2	+·0002
22	202·8	57·5		14·5		+·0003	+·0003	+ 1·9	0·0	+·0003
27	202·4	57·2		14·5		+·0003	+·0003	+ 1·7	0·0	+·0003
32	201·9	56·4		14·5		+·0001	+·0002	+ 1·4	+ 0·1	+·0001
37	201·6	55·9		14·6		·0000	+·0003	+ 1·3	+ 0·3	·0000
42	201·4	55·6		14·6		·0000	+·0003	+ 1·2	+ 0·3	·0000
47	201·1	55·3		14·6		·0000	+·0003	+ 1·1	+ 0·3	·0000
52	201·0	55·4		14·9		+·0001	+·0005	+ 1·1	+ 0·5	+·0002
57	200·9	55·7		14·9		+·0002	+·0005	+ 1·1	+ 0·3	+·0002
03 02	200·8	55·9	73·3	14·9	72·9	+·0003	+·0005	+ 1·1	+ 0·2	+·0003
07	201·0	55·9		14·9		+·0003	+·0005	+ 1·2	+ 0·2	+·0003
12	200·9	56·0		14·9		+·0004	+·0005	+ 1·1	+ 0·1	+·0004
17	200·8	56·0		14·9		+·0004	+·0005	+ 1·1	+ 0·1	+·0004
22	200·6	55·9		14·9		+·0005	+·0004	+ 1·0	− 0·1	+·0005
27	200·4	56·0		14·9		+·0005	+·0004	+ 0·8	− 0·1	+·0005
32	200·2	56·2		14·9		+·0006	+·0004	+ 0·7	− 0·2	+·0006
37	200·1	56·5		15·3		+·0007	+·0008	+ 0·6	+ 0·1	+·0007
42	200·1	56·9		15·3		+·0008	+·0008	+ 0·6	0·0	+·0008
47	200·1	56·9		15·3		+·0008	+·0008	+ 0·6	0·0	+·0008
52	200·0	56·2		15·3		+·0008	+·0007	+ 0·6	− 0·1	+·0008
57	200·0	55·8		15·3		+·0007	+·0007	+ 0·6	0·0	+·0007

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St. Helena.

April 18.

OBSERVATIONS OF THE MAGNETOMETERS. The Declination was observed 2m. before, and the V. F. 1m. after the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
18 04 02	200·0	55·0	73·9	15·6	73·3	+·0006	+·0010	+ 0·6	+ 0·5	+·0007
07	200·0	55·0		15·6		+·0006	+·0010	+ 0·6	+ 0·5	+·0007
12	200·0	55·0		15·6		+·0006	+·0010	+ 0·7	+ 0·5	+·0007
17	200·0	55·0		15·6		+·0007	+·0010	+ 0·7	+ 0·3	+·0007
22	200·0	55·0		15·7		+·0007	+·0010	+ 0·7	+ 0·3	+·0007
27	200·0	55·0		15·7		+·0007	+·0010	+ 0·8	+ 0·3	+·0007
32	200·0	54·9		15·7		+·0007	+·0010	+ 0·8	+ 0·3	+·0007
37	200·0	54·1		15·7		+·0006	+·0010	+ 0·8	+ 0·5	+·0007
42	200·0	53·9		15·7		+·0006	+·0010	+ 0·8	+ 0·5	+·0007
47	200·0	53·4		15·9		+·0005	+·0011	+ 0·8	+ 0·7	+·0006
52	200·0	52·9		15·9		+·0004	+·0010	+ 0·8	+ 0·7	+·0005
57	200·0	52·2		15·9		+·0003	+·0010	+ 0·9	+ 0·8	+·0004
05 02	199·9	52·1	73·9	15·9	73.3	+·0003	+·0010	+ 0·8	+ 0·8	+·0004
07	199·7	52·1		15·9		+·0003	+·0010	+ 0·7	+ 0·8	+·0004
12	199·7	52·3		15·9		+·0003	+·0010	+ 0·7	+ 0·8	+·0004
17	199·8	52·3		16·0		+·0003	+·0011	+ 0·8	+ 0·9	+·0004
22	199·8	52·2		16·0		+·0003	+·0011	+ 0·8	+ 0·9	+·0004
27	199·8	51·9		16·0		+·0003	+·0011	+ 0·8	+ 0·9	+·0004
32	199·8	52·0		16·0		+·0003	+·0011	+ 0·8	+ 0·9	+·0004
37	199·9	52·1		16·0		+·0003	+·0011	+ 0·9	+ 0·9	+·0004
42	199·9	52·2		16·0		+·0004	+·0011	+ 0·9	+ 0·8	+·0005
47	200·0	52·1		16·0		+·0003	+·0011	+ 1·0	+ 0·9	+·0004
52	200·0	51·7		16·0		+·0003	+·0011	+ 1·0	+ 0·9	+·0004
57	200·0	51·7		16·0		+·0003	+·0011	+ 1·0	+ 0·9	+·0004
06 02	200·0	51·7	73·9	16·0	73·3	+·0005	+·0010	+ 1·0	+ 0·6	+·0006
07 02	199·1	50·7	73·7	15·2	73·4	+·0004	+·0005	+ 0·4	+ 0·1	+·0004
08 02	199·4	50·6	73·2	15·3	73·1	+·0003	+·0007	+ 0·5	+ 0·5	+·0004

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For Mean Monthly Readings, *see* page 324.

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24 10 02	121·2	180·0	65·0	125·0	63·6	+·0015	−·0005	+ 0·4	− 1·7	−·0004
07	121·2	180·0		125·0		+·0014	−·0005	+ 0·2	− 1·6	−·0004
12	121·2	180·0		125·0		+·0014	−·0005	+ 0·1	− 1·6	−·0004
17	121·2	180·1		125·0		+·0014	−·0005	0·0	− 1·6	−·0004
22	121·5	180·0		125·0		+·0014	−·0005	+ 0·1	− 1·6	−·0004
27	121·7	180·0		125·0		+·0014	−·0005	+ 0·1	− 1·6	−·0004
32	121·8	180·7		124·8		+·0014	−·0005	+ 0·1	− 1·6	−·0004
37	122·0	181·9		125·0		+·0015	−·0005	+ 0·1	− 1·7	−·0004
42	122·0	183·9		125·0		+·0016	−·0005	+ 0·1	− 1·8	−·0004
47	122·0	184·0		125·0		+·0016	−·0005	− 0·1	− 1·8	−·0004
52	122·1	182·5		124·6		+·0015	−·0006	− 0·1	− 1·8	−·0005
57	122·2	182·4		124·7		+·0014	−·0006	− 0·1	− 1·7	−·0005
11 02	122·3	183·0	65·2	124·7	63·6	+·0015	−·0006	− 0·1	− 1·8	−·0005
07	122·4	182·9		124·3		+·0015	−·0006	− 0·1	− 1·8	−·0005
12	122·4	181·9		124·3		+·0014	−·0006	− 0·2	− 1·7	−·0005
17	122·9	181·1		124·3		+·0014	−·0006	+ 0·1	− 1·7	−·0005
22	123·0	180·7		124·3		+·0014	−·0006	+ 0·1	− 1·7	−·0005
27	123·0	180·9		124·3		+·0014	−·0006	+ 0·1	− 1·7	−·0005
32	123·0	180·3		124·5		+·0014	−·0006	0·0	− 1·7	−·0005
37	123·1	180·0		124·5		+·0014	−·0006	+ 0·1	− 1·7	−·0005
42	123·1	180·0		124·5		+·0014	−·0006	0·0	− 1·7	−·0005
47	123·1	181·7		124·6		+·0016	−·0006	− 0·1	− 1·9	−·0005
52	123·1	182·8		124·6		+·0017	−·0006	− 0·1	− 1·9	−·0004
57	123·1	182·5		124·6		+·0017	−·0006	− 0·1	− 1·9	−·0004
12 02	123·0	182·6	65·0	124·6	63·6	+·0017	−·0006	− 0·3	− 1·9	−·0004
07	123·0	182·5		124·6		+·0018	−·0006	− 0·4	− 2·0	−·0004
12	123·0	183·2		124·4		+·0018	−·0006	− 0·4	− 2·0	−·0004
17	123·1	181·4		124·5		+·0017	−·0006	− 0·4	− 1·9	−·0004
22	123·0	179·2		124·5		+·0015	−·0006	− 0·5	− 1·8	−·0005
27	123·0	179·1		124·5		+·0015	−·0006	− 0·5	− 1·8	−·0005

1844.
Toronto.

April 24.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
24 12 32	123·4	178·6		124·5		+·0015	−·0006	− 0·3	− 1·8	−·0005
37	123·3	178·1		124·2		+·0015	−·0006	− 0·4	− 1·8	−·0005
42	123·4	177·8		124·2		+·0015	−·0006	− 0·4	− 1·8	−·0005
47	123·4	177·8		124·2		+·0015	−·0006	− 0·4	− 1·8	−·0005
52	123·4	177·4		123·7		+·0015	−·0006	− 0·5	− 1·8	−·0005
57	123·7	177·6		123·1		+·0015	−·0006	− 0·3	− 1·8	−·0005
13 02	123·0	177·1	65·0	123·1	63·8	+·0015	−·0006	− 0·8	− 1·8	−·0005
07	122·5	177·0		123·1		+·0015	−·0006	− 1·3	− 1·8	−·0005
12	122·5	176·5		122·2		+·0015	−·0007	− 1·4	− 1·9	−·0006
17	122·2	176·8		122·2		+·0015	−·0007	− 1·7	− 1·9	−·0006
22	122·5	176·0		122·2		+·0015	−·0007	− 1·5	− 1·9	−·0006
27	123 0	177·0		122·2		+·0016	−·0007	− 1·3	− 1·9	−·0005
32	123·1	178·0		122·2		+·0017	−·0006	− 1·3	− 1·9	−·0004
37	123·3	178·0		122·2		+·0017	−·0006	− 1·3	− 1·9	−·0004
42	123·0	178·0		122·2		+·0017	−·0006	− 1·5	− 1·9	−·0004
47	123·0	178·0		122·2		+·0018	−·0006	− 1·6	− 2·0	−·0004
52	123·0	176·8		121·9		+·0017	−·0006	− 1·8	− 1·9	−·0004
57	123·1	176·1		121·9		+·0016	−·0006	− 1·8	− 1·9	−·0005
14 02	123·3	175·5	64·5	121·9	64·5	+·0016	−·0006	− 1·7	− 1·9	−·0005
07	123·6	176·0		121·9		+·0016	−·0006	− 1·5	− 1·9	−·0005
12	123·1	176·0		121·9		+·0016	−·0006	− 2·0	− 1·9	−·0005
17	123·1	176·8		121·9		+·0017	−·0006	− 2·0	− 1·9	−·0004
22	123·0	176·8		122·4		+·0017	−·0006	− 2·2	− 1·9	−·0004
27	123·0	176·0		122·3		+·0016	−·0006	− 2·3	− 1·9	−·0005
32	123·0	176·0		122·3		+·0016	−·0006	− 2·3	− 1·9	−·0005
37	123·0	176·0		122·5		+·0016	−·0006	− 2·4	− 1·9	−·0005
42	123·0	175·7		122·9		+·0015	−·0005	− 2·5	− 1·7	−·0004
47	122·9	175·5		122·8		+·0015	−·0005	− 2·6	− 1·7	−·0004
52	123·0	175·6		122·8		+·0015	−·0005	− 2·6	− 1·7	−·0004
57	123·0	176·0		123·2		+·0016	−·0005	− 2·6	− 1·8	−·0004
15 02	123·0	176·0	63·5	123·2	63·8	+·0015	−·0005	− 2·7	− 1·7	−·0004
07	123·4	176·0		123·2		+·0015	−·0005	− 2·5	− 1·7	−·0004
12	123·0	175·6		123·2		+·0015	−·0005	− 2·8	− 1·7	−·0004
17	123·0	175·6		123·1		+·0014	−·0005	− 2·8	− 1·6	−·0004
22	123·2	175·9		123·6		+·0014	−·0005	− 2·8	− 1·6	−·0004
27	123·1	176·0		123·8		+·0014	−·0005	− 2·9	− 1·6	−·0004
32	123·2	176·4		123·8		+·0014	−·0005	− 2·9	− 1·6	−·0004
37	123·8	177·4		124·3		+·0015	−·0004	− 2·6	− 1·6	−·0003
42	123·9	177·9		124·3		+·0015	−·0004	− 2·6	− 1·6	−·0003
47	123·8	178·0		124·3		+·0015	−·0004	− 2·6	− 1·6	−·0003
52	123·5	177·2		124·3		+·0014	−·0004	− 2·9	− 1·5	−·0003
57	123·4	177·0		124·3		+·0014	−·0004	− 3·0	− 1·5	−·0003
16 02	123·5	177·0	62·7	124·3	63·3	+·0013	−·0004	− 3·0	− 1·4	−·0003
07	123·8	177·0		124·3		+·0013	−·0004	− 2·8	− 1·4	−·0003
12	123·7	176·8		124·3		+·0013	−·0004	− 3·0	− 1·4	−·0003
17	123·7	176·6		123·8		+·0013	−·0005	− 3·0	− 1·5	−·0004
22	123·6	176·6		123·8		+·0013	−·0005	− 3·1	− 1·5	−·0004
27	123·5	176·7		123·7		+·0014	−·0005	− 3·2	− 1·6	−·0004
32	123·3	176·5		124·5		+·0013	−·0004	− 3·3	− 1·4	−·0003
37	123·4	176·0		124·8		+·0013	−·0004	− 3·3	− 1·4	−·0003
42	123·5	175·8		124·8		+·0013	−·0004	− 3·3	− 1·4	−·0003
47	125·0	174·8		124·8		+·0012	−·0004	− 2·3	− 1·4	−·0003
52	127·1	173·5		123·8		+·0011	−·0005	− 0·7	− 1·4	−·0004
57	129·0	173·0		123·8		+·0011	−·0005	+ 0·6	− 1·4	−·0004
17 02	130·9	174·1	62·1	124·5	62·8	+·0012	−·0004	+ 1·9	− 1·4	−·0003
07	131·7	173·6		124·5		+·0011	−·0004	+ 2·7	− 1·3	−·0003
12	132·1	174·0		124·5		+·0012	−·0004	+ 3·0	− 1·4	−·0003
17	132·1	173·6		124·6		+·0011	−·0004	+ 3·2	− 1·3	−·0003
22	132·0	173·7		124·8		+·0011	−·0004	+ 3·2	− 1·3	−·0003
27	129·6	174·0		124·8		+·0011	−·0004	+ 1·5	− 1·3	−·0003
32	128·1	173·7		124·8		+·0011	−·0004	+ 0·6	− 1·3	−·0003
37	128·2	172·0		125·1		+·0010	−·0004	+ 0·8	− 1·2	−·0003

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OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
						$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta \psi$	$\Delta \theta$	$\frac{\Delta \phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
24 17 42	127·5	171·6		125·1		+·0009	−·0004	+ 0·4	− 1·1	−·0003
47	127·0	171·5		125·8		+·0009	−·0004	+ 0·1	− 1·1	−·0003
52	125·3	172·9		125·9		+·0010	−·0004	− 1·0	− 1·2	−·0003
57	122·6	172·5		125·9		+·0010	−·0004	− 2·8	− 1·2	−·0003
18 02	120·1	172·9	61·4	125·9	61·8	+·0010	−·0004	− 4·5	− 1·2	−·0003
07	120·5	173·2		125·9		+·0010	−·0004	− 4·2	− 1·2	−·0003
12	121·1	174·1		125·7		+·0011	−·0004	− 3·8	− 1·3	−·0003
17	122·3	174·9		125·7		+·0012	−·0004	− 3·0	− 1·4	−·0003
22	123·8	175·4		125·7		+·0012	−·0004	− 1·8	− 1·4	−·0003
27	124·3	178·9		126·2		+·0015	−·0004	− 1·4	− 1·6	−·0003
32	126·2	177·9		125·8		+·0014	−·0004	− 0·1	− 1·5	−·0003
37	126·9	178·3		125·7		+·0014	−·0004	+ 0·4	− 1·5	−·0003
42	128·1	178·7		127·7		+·0015	−·0003	+ 1·3	− 1·5	−·0002
47	128·2	179·0		126·7		+·0015	−·0004	+ 1·3	− 1·6	−·0003
52	128·0	179·1		126·7		+·0015	−·0004	+ 1·3	− 1·6	−·0003
57	128·3	179·6		126·8		+·0015	−·0004	+ 1·5	− 1·6	−·0003
19 02	127·9	179·7	61·2	126·2	61·8	+·0016	−·0004	+ 1·2	− 1·7	−·0003
07	127·5	180·4		126·5		+·0016	−·0004	+ 0·8	− 1·7	−·0003
12	127·6	180·4		125·9		+·0016	−·0004	+ 0·8	− 1·7	−·0003
17	127·3	180·4		125·9		+·0016	−·0004	+ 0·5	− 1·7	−·0003
22	127·7	180·1		125·4		+·0016	−·0004	+ 0·7	− 1·7	−·0003
27	127·5	179·8		125·2		+·0016	−·0004	+ 0·4	− 1·7	−·0003
32	127·3	180·1		125·2		+·0016	−·0004	+ 0·2	− 1·7	−·0003
37	127·1	180·5		125·1		+·0017	−·0004	0·0	− 1·8	−·0003
42	126·4	180·0		125·1		+·0016	−·0004	− 0·6	− 1·7	−·0003
47	126·4	179·9		125·1		+·0016	−·0004	− 0·7	− 1·7	−·0003
52	126·3	179·7		125·1		+·0016	−·0004	− 0·8	− 1·7	−·0003
57	126·0	179·7		125·1		+·0016	−·0004	− 1·2	− 1·7	−·0003
20 02	125·5	180·7	61·0	126·1		+·0017	−·0003	− 1·6	− 1·7	−·0002
07	125·1	181·1		126·3		+·0017	−·0003	− 1·9	− 1·7	−·0002
12	125·1	181·5		126·3		+·0018	−·0003	− 1·9	− 1·8	−·0002
17	125·0	182·1		126·1		+·0018	−·0003	− 2·0	− 1·8	−·0002
22	125·0	182·1		126·1		+·0018	−·0003	− 2·0	− 1·8	−·0002
27	125·0	182·4		126·1		+·0018	−·0003	− 2·0	− 1·8	−·0002
32	124·8	182 9		126·1		+·0019	−·0003	− 2·3	− 1·9	−·0002
37	124·9	183·0		126·1		+·0019	−·0003	− 2·2	− 1·9	−·0002
42	125·0	183·4		126·1		+·0019	−·0002	− 2·0	− 1·8	−·0001
47	125·0	184·3		126·5		+·0019	−·0002	− 2·0	− 1·8	−·0001
52	125·1	185·0		126·7		+·0020	−·0002	− 2·0	− 1·9	−·0001
57	125·7	184·8		126·7		+·0020	−·0002	− 1·6	− 1·9	−·0001
21 02	126·3	185·0	60·0	126·9	61·2	+·0020	−·0002	− 1·2	− 1·9	−·0001
07	126·5	184·9		127·1		+·0019	−·0002	− 1·1	− 1·8	−·0001
12	126·6	184·6		127·1		+·0019	−·0002	− 1·0	− 1·8	−·0001
17	127·0	185·0		127·2		+·0019	−·0002	− 0·7	− 1·8	−·0001
22	127·0	185·4		127·3		+·0019	−·0002	− 0·7	− 1·8	−·0001
27	126·8	185·0		127·3		+·0018	−·0002	− 0·8	− 1·7	−·0001
32	127·0	185·0		127·5		+·0018	−·0002	− 0·7	− 1·7	−·0001
37	127·0	184·2		127·3		+·0017	−·0003	− 0·8	− 1·7	−·0002
42	127·5	183·2		127·3		+·0016	−·0003	− 0·4	− 1·6	−·0002
47	127·9	184·1		127·2		+·0016	−·0003	− 0·1	− 1·6	−·0002
52	127·9	184·3		127·2		+·0016	−·0003	− 0·1	− 1·6	−·0002
57	128·2	184·9		127·2		+·0016	−·0004	+ 0·1	− 1·7	−·0003
22 02	128·2	183·8	59·9	127·5	60·8	+·0015	−·0004	+ 0·1	− 1·6	−·0003
07	128·6	183·3		127·5		+·0015	−·0003	+ 0·4	− 1·5	−·0002
12	129·4	183·0		127·5		+·0014	−·0003	+ 1·1	− 1·4	−·0002
17	130·5	183·7		127·5		+·0015	−·0003	+ 1·8	− 1·5	−·0002
22	130·5	183·3		127·5		+·0014	−·0003	+ 1·9	− 1·4	−·0002
27	130·4	183·1		127·2		+·0014	−·0003	+ 1·9	− 1·4	−·0002
32	130·5	183·0		127·5		+·0014	−·0003	+ 2·0	− 1·4	−·0002
37	130·1	183·0		127·9		+·0014	−·0003	+ 1·8	− 1·4	−·0002
42	129·5	184·1		128·6		+·0015	−·0002	+ 1·5	− 1·4	−·0001
47	128·9	185·6		129·0		+·0016	−·0002	+ 1·1	− 1·5	−·0001

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OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
						$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta \psi$	$\Delta \theta$	$\frac{\Delta \phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
24 22 52	129·4	187·4		129·0		+·0017	−·0002	+ 1·5	− 1·6	−·0001
57	129·6	186·3		129·4		+·0016	−·0001	+ 1·7	− 1·4	·0000
23 02	129·5	185·4	59·6	129·6	60·4	+·0015	−·0001	+ 1·7	− 1·4	·0000
07	128·9	185·2		129·0		+·0015	−·0002	+ 1·2	− 1·4	−·0001
12	128·3	185·9		129·0		+·0016	−·0002	+ 0·7	− 1·5	−·0001
17	128·0	185·6		129·1		+·0017	−·0002	+ 0·5	− 1·6	−·0001
22	128·0	184·2		129·5		+·0016	−·0001	+ 0·4	− 1·4	·0000
27	127·6	183·6		129·5		+·0015	−·0002	+ 0·1	− 1·4	−·0001
32	127·9	185·2		129·5		+·0017	−·0002	+ 0·2	− 1·6	−·0001
37	128·0	185·6		129·9		+·0018	−·0001	+ 0·3	− 1·6	·0000
42	127·8	184·6		130·0		+·0017	−·0001	+ 0·1	− 1·5	·0000
47	127·3	183·5		130·0		+·0017	−·0002	− 0·4	− 1·6	−·0001
52	126·9	184·6		130·4		+·0018	−·0001	− 0·7	− 1·6	·0000
57	126·8	184·3		130·3		+·0018	−·0002	− 0·8	− 1·7	−·0001
25 00 02	127·0	186·1	58·8	130·1	59·6	+·0020	−·0002	− 0·7	− 1·9	−·0001
07	126·8	187·0		130·1		+·0021	−·0002	− 0·8	− 1·9	·0000
12	127·1	187·7		130·3		+·0021	−·0001	− 0·6	− 1·9	·0000
17	126·8	187·7		130·3		+·0022	−·0001	− 0·8	− 1·9	−·0001
22	126·6	187·4		130·1		+·0021	−·0002	− 1·0	− 1·9	·0000
27	127·1	187·3		129·7		+·0021	−·0002	− 0·6	− 1·9	·0000
32	128·2	188·7		128·9		+·0023	−·0002	+ 0·1	− 2·1	·0000
37	128·8	188·1		127·7		+·0022	−·0003	+ 0·6	− 2·1	−·0001
42	129·9	187·4		127·7		+·0022	−·0003	+ 1·3	− 2·1	−·0001
47	130·4	188·2		127·7		+·0022	−·0003	+ 1·7	− 2·1	−·0001
52	129·0	186·2		127·7		+·0021	−·0003	+ 0·7	− 2·0	−·0001
57	128·8	183·8		127·6		+·0019	−·0003	+ 0·6	− 1·9	−·0002
01 02	129·1	181·6	59·6	126·6	60·4	+·0017	−·0003	+ 0·8	− 1·7	−·0002
07	128·5	182·4		127·2		+·0018	−·0003	+ 0·3	− 1·8	−·0002
12	127·8	180·8		126·9		+·0017	−·0003	− 0·4	− 1·7	−·0002
17	128·3	177·4		126·6		+·0014	−·0004	− 0·1	− 1·5	−·0003
22	129·0	174·3		126·6		+·0011	−·0004	+ 0·4	− 1·3	−·0003
27	129·6	171·4		126·6		+·0009	−·0004	+ 0·6	− 1·1	−·0003
32	129·9	169·6		126·6		+·0008	−·0004	+ 0·8	− 1·0	−·0003
37	129·4	167·8		126·6		+·0006	−·0004	+ 0·4	− 0·9	−·0003
42	124·5	168·3		127·4		+·0007	−·0004	− 3·3	− 0·9	−·0003
47	123·9	170·7		127·3		+·0009	−·0004	− 3·8	− 1·1	−·0003
52	123·5	172·8		126·8		+·0012	−·0005	− 4·2	− 1·4	−·0004
57	123·0	179·0		126·5		+·0017	−·0005	− 4·7	− 1·9	−·0004
02 02	122·8	168·3	61·0	124·1	60·6	+·0008	−·0007	− 4·9	− 1·3	−·0006
07	121·8	167·6		123·0		+·0008	−·0007	− 5·5	− 1·3	−·0006
12	122·7	162·0		122·0		+·0003	−·0008	− 4·9	− 0·9	−·0007
17	119·2	161·6		122·7		+·0003	−·0007	− 7·3	− 0·9	−·0006
22	115·7	160·8		121·1		+·0003	−·0008	− 9·8	− 0·9	−·0007
27	114·9	161·9		120·1		+·0004	−·0009	−10·4	− 1·1	−·0008
32	114·1	161·4		120·1		+·0004	−·0009	−10·9	− 1·1	−·0008
37	114·5	165·0		120·1		+·0008	−·0009	−10·5	− 1·4	−·0008
42	115·1	168·8		120·4		+·0012	−·0009	−10·1	− 1·8	−·0008
47	114·9	169·3		120·4		+·0012	−·0009	−10·2	− 1·8	−·0008
52	115·4	171·1		120·4		+·0014	−·0009	− 9·8	− 1·9	−·0007
57	116·9	171·5		120·4		+·0015	−·0009	− 8·7	− 2·0	−·0007
03 02	117·0	173·1	61·8	120·9	61·1	+·0017	−·0008	− 8·5	− 2·1	−·0006
07	117·8	179·0		121·6		+·0022	−·0008	− 7·7	− 2·5	−·0006
12	116·9	183·7		121·5		+·0026	−·0008	− 8·1	− 2·9	−·0006
17	116·0	188·4		120·4		+·0031	−·0008	− 8·7	− 3·3	−·0005
22	116·7	189·1		119·9		+·0031	−·0009	− 7·9	− 3·4	−·0006
27	117·9	190·9		119·3		+·0033	−·0009	− 6·9	− 3·6	−·0006
32	117·3	190·5		118·9		+·0033	−·0009	− 7·1	− 3·6	−·0006
37	118·3	187·2		118·4		+·0030	−·0010	− 6·2	− 3·4	−·0007
42	119·1	183·5		118·7		+·0027	−·0009	− 5·3	− 3·1	−·0007
47	117·8	185·7		119·1		+·0029	−·0009	− 6·2	− 3·2	−·0007
52	117·1	187·3		119·1		+·0031	−·0009	− 6·4	− 3·4	−·0006
57	117·4	188·5		119·1		+·0032	−·0009	− 6·0	− 3·5	−·0006

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OBSERVATIONS OF THE MAGNETOMETERS. The Declination was observed 2m. before, and the V. F. 1m. after the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta \psi$	$\Delta \theta$	$\frac{\Delta \phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
25 04 02	117·7	187·3	62·3	119·0	61·4	+·0031	−·0009	− 5·5	− 3·4	−·0006
07	118·0	186·5		119·0		+·0031	−·0009	− 5·1	− 3·4	−·0006
12	120·1	185·1		119·0		+·0029	−·0009	− 3·3	− 3·2	−·0007
17	122·0	184·6		119·8		+·0029	−·0009	− 1·7	− 3·2	−·0007
22	124·3	185·5		120·6		+·0030	−·0008	+ 0·1	− 3·2	−·0006
27	125·2	183·4		120·6		+·0028	−·0008	+ 1·1	− 3·1	−·0006
32	123·8	181·8		120·6		+·0026	−·0008	+ 0·3	− 2·9	−·0006
37	122·8	180·8		120·6		+·0025	−·0008	− 0·2	− 2·8	−·0006
42	123·6	179·1		121·2		+·0024	−·0007	+ 0·6	− 2·6	−·0005
47	124·0	177·1		120·7		+·0022	−·0008	+ 1·1	− 2·5	−·0006
52	122·8	177·3		121·5		+·0022	−·0007	+ 0·5	− 2·4	−·0005
57	121·7	174·8		121·5		+·0020	−·0007	0·0	− 2·3	−·0005
05 02	121·0	174·7	62·5	121·5	61·6	+·0020	−·0007	− 0·3	− 2·3	−·0005
07	122·0	173·7		120·6		+·0019	−·0008	+ 0·6	− 2·3	−·0006
12	122·8	171·5		120·6		+·0017	−·0008	+ 1·3	− 2·1	−·0006
17	122·8	170·4		121·0		+·0015	−·0008	+ 1·5	− 1·9	−·0006
22	123·0	168·6		120·8		+·0014	−·0008	+ 1·8	− 1·9	−·0007
27	122·6	163·1		120·8		+·0009	−·0008	+ 1·6	− 1·4	−·0007
32	122·9	163·1		121·2		+·0008	−·0007	+ 2·0	− 1·3	−·0006
37	122·2	161·4		121·7		+·0007	−·0007	+ 1·7	− 1·2	−·0006
42	120·0	162·5		121·7		+·0008	−·0007	+ 0·9	− 1·3	−·0006
47	118·5	161·9		121·9		+·0007	−·0007	− 0·6	− 1·2	−·0006
52	118·2	163·3		121·9		+·0008	−·0007	− 0·6	− 1·3	−·0006
57	117·4	163·9		121·9		+·0008	−·0007	− 1·1	− 1·3	−·0006
06 02	118·7	167·4	62·4	122·5	61·8	+·0011	−·0007	0·0	− 1·5	−·0006
07	120·3	169·8		122·9		+·0013	−·0006	+ 1·2	− 1·6	−·0005
12	120·9	173·4		123·5		+·0016	−·0006	+ 1·7	− 1·9	−·0005
17	121·3	174·4		123·8		+·0016	−·0006	+ 2·0	− 1·9	−·0005
22	120·4	173·6		124·1		+·0015	−·0006	+ 1·4	− 1·8	−·0005
27	118·8	174·2		124·6		+·0015	−·0006	+ 0·4	− 1·8	−·0005
32	118·8	175·9		125·1		+·0016	−·0005	+ 0·4	− 1·8	−·0004
37	121·1	175·5		125·1		+·0015	−·0006	+ 2·2	− 1·8	−·0005
42	121·2	174·0		125·0		+·0014	−·0006	+ 2·3	− 1·7	−·0005
47	119·4	161·5		124·4		+·0002	−·0006	+ 1·0	− 0·7	−·0006
52	117·1	158·4		124·4		−·0001	−·0006	− 0·6	− 0·4	−·0006
57	116·4	157·4		125·0		−·0002	−·0006	− 1·0	− 0·3	−·0006
07 02	117·1	158·9	62·5	125·7	61·8	−·0001	−·0005	− 0·4	− 0·3	−·0005
07	117·0	161·6		125·8		+·0001	−·0005	− 0·5	− 0·5	−·0005
12	116·2	155·0		126·8		−·0005	−·0005	− 1·1	0·0	−·0005
17	116·9	158·9		128·5		−·0002	−·0004	− 0·6	− 0·2	−·0004
22	115·9	159·9		129·4		−·0002	−·0003	− 1·3	− 0·1	−·0003
27	114·9	158·9		129·8		−·0003	−·0003	− 2·0	0·0	−·0003
32	115·2	152·7		130·3		−·0009	−·0003	− 1·8	+ 0·5	−·0003
37	115·1	154·5		132·2		−·0008	−·0001	− 1·8	+ 0·6	−·0001
42	114·3	160·0		134·1		−·0003	·0000	− 2·4	+ 0·2	·0000
47	112·6	158·9		134·2		−·0005	·0000	− 3·6	+ 0·4	·0000
52	113·1	162·0		135·2		−·0002	·0000	− 3·3	+ 0·2	·0000
57	113·7	160·4		134·9		−·0004	·0000	− 2·8	+ 0·3	·0000
08 02	115·2	159·5	62·6	134·5	62·0	−·0005	·0000	− 1·7	+ 0·4	·0000
07	115·3	160·5		134·2		−·0005	·0000	− 1·7	+ 0·4	·0000
12	115·9	161·6		133·8		−·0004	−·0001	− 1·3	+ 0·2	−·0001
17	115·8	160·0		132·2		−·0006	−·0002	− 1·5	+ 0·3	−·0002
22	115·6	159·7		131·4		−·0007	−·0002	− 1·8	+ 0·4	−·0002
27	116·1	161·0		130·5		−·0006	−·0003	− 1·5	+ 0·2	−·0003
32	115·8	159·7		130·5		−·0008	−·0003	− 1·8	+ 0·4	−·0003
37	115·5	162·1		130·3		−·0006	−·0003	− 2·0	+ 0·2	−·0003
42	116·1	161·7		129·9		−·0007	−·0003	− 1·7	+ 0·3	−·0003
47	116·6	163·1		129·8		−·0006	−·0003	− 1·4	+ 0·2	−·0003
52	117·0	165·6		130·4		−·0004	−·0003	− 1·3	+ 0·1	−·0003
57	117·7	170·7		131·2		·0000	−·0002	− 0·8	− 0·2	−·0002
09 02	117·7	172·4	62·6	131·2	62·1	+·0001	−·0002	− 0·9	− 0·2	−·0002
07	118·0	176·3		132·2		+·0005	−·0002	− 0·8	− 0·6	−·0002

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OBSERVATIONS OF THE MAGNETOMETERS. The Declination was observed 2m. before, and the V. F. 1m. after the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta \psi$	$\Delta \theta$	$\frac{\Delta \phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
25 09 12	118·1	178·9		132·2		+·0007	−·0002	− 0·8	− 0·8	−·0001
17	118·2	177·1		132·2		+·0005	−·0002	− 0·8	− 0·6	−·0002
22	118·3	174·8		131·2		+·0003	−·0002	− 0·9	− 0·4	−·0002
27	118·1	174·4		130·9		+·0003	−·0002	− 1·1	− 0·4	−·0002
32	118·1	174·7		130·9		+·0003	−·0002	− 1·2	− 0·9	−·0002
37	118·1	174·8		130·4		+·0003	−·0003	− 1·3	− 0·5	−·0003
42	118·3	174·5		130·2		+·0003	−·0003	− 1·3	− 0·5	−·0003
47	118·3	174·2		130·2		+·0003	−·0003	− 1·4	− 0·5	−·0003
52	118·5	174·4		129·7		+·0003	−·0003	− 1·3	− 0·5	−·0003
57	118·8	175·0		129·7		+·0003	−·0003	− 1·3	− 0·5	−·0003

1844. Van Diemen Island.

April 24.

For Mean Monthly Readings, *see* page 320.

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24 10 02	74·6	103·7	54·4	87·6	53·4	+·0006	·0000	− 0·4	− 0·7	+·0001
07	74·2	103·3		87·6		+·0006	·0000	− 0·5	− 0·7	+·0001
12	73·6	103·5		87·6		+·0006	·0000	− 0·8	− 0·7	+·0001
17	73·7	103·5		87·6		+·0006	·0000	− 0·6	− 0·7	+·0001
22	73·4	103·6		87·1		+·0006	·0000	− 0·8	− 0·7	+·0001
27	73·5	103·4		87·1		+·0006	−·0001	− 0·6	− 0·8	·0000
32	73·0	103·4		86·8		+·0006	−·0001	− 0·8	− 0·8	·0000
37	72·8	103·4		87·0		+·0006	−·0001	− 0·8	− 0·8	·0000
42	72·8	103·4		87·2		+·0006	·0000	− 0·8	− 0·7	+·0001
47	72·5	103·4		88·4		+·0006	·0000	− 0·8	− 0·7	+·0001
52	72·5	103·4		87·6		+·0006	·0000	− 0·8	− 0·7	+·0001
57	72·7	103·4		87·5		+·0006	·0000	− 0·5	− 0·7	+·0001
11 02	72·4	103·3	54·2	87·7	53·0	+·0006	·0000	− 0·6	− 0·7	+·0001
07	72·3	103·1		87·7		+·0006	·0000	− 0·6	− 0 7	+·0001
12	72·0	103·0		88·1		+·0006	·0000	− 0·8	− 0·7	+·0001
17	72·0	102·8		88·3		+·0006	·0000	− 0·8	− 0·7	+·0001
22	72·0	102·8		88·8		+·0006	·0000	− 0·7	− 0·7	+·0001
27	72·0	102·7		88·5		+·0006	·0000	− 0·6	− 0·7	+·0001
32	71·9	102·8		89·2		+·0006	·0000	− 0·6	− 0·7	+·0001
37	71·8	102·5		88·7		+·0006	·0000	− 0·7	− 0·7	+·0001
42	71·4	102·3		88·7		+·0006	·0000	− 0·9	− 0·7	+·0001
47	71·1	102·3		88·7		+·0006	−·0001	− 1·1	− 0·8	·0000
52	71·0	102·2		88·9		+·0006	−·0001	− 1·1	− 0·8	·0000
57	71·0	102·1		89·3		+·0007	·0000	− 1·1	− 0·8	+·0001
12 02	70·8	102·0	54·2	89·4	53·2	+·0007	·0000	− 1·1	− 0·8	+·0001
07	70·8	101·7		88·8		+·0006	−·0001	− 1·1	− 0·8	·0000
12	70·5	101·4		90·1		+·0006	·0000	− 1·3	− 0·7	+·0001
17	70·4	101·1		90·3		+·0006	·0000	− 1·4	− 0·7	+·0001
22	70·3	100·9		90·4		+·0006	·0000	− 1·5	− 0·7	+·0001
27	70·2	100·6		91·2		+·0006	·0000	− 1·5	− 0·7	+·0001
32	70·3	100·5		92·4		+·0006	+·0001	− 1·5	− 0·5	+·0002
37	70·0	100·3		91·3		+·0006	·0000	− 1·8	− 0·7	+·0001
42	70·2	100·0		92·2		+·0005	·0000	− 1·6	− 0·5	+·0001
47	70·1	99·8		92·7		+·0005	+·0001	− 1·7	− 0·4	+·0001
52	70·3	99·6		93·2		+·0005	+·0001	− 1·5	− 0·4	+·0001
57	70·4	99·5		93·3		+·0006	+·0001	− 1·5	− 0·5	+·0002
13 02	70·4	99·5	54·7	93·9	53·3	+·0006	+·0001	− 1·5	− 0·5	+·0002
07	70·5	99·3		93·9		+·0005	+·0001	− 1·5	− 0·4	+·0001
12	70·7	99·3		93·9		+·0006	+·0001	− 1·5	− 0·5	+·0002
17	70·9	99·2		94·8		+·0005	+·0001	− 1·5	− 0·4	+·0001
22	71·0	99·0		94·6		+·0005	+·0001	− 1·5	− 0·4	+·0001
27	71·1	98·8		94·5		+·0005	+·0001	− 1·6	− 0·4	+·0001
32	71·2	98·7		94·5		+·0004	+·0001	− 1·7	− 0·3	+·0001
37	71·4	98·5		94·6		+·0004	+·0001	− 1·7	− 0·3	+·0001
42	71·5	98·2		95·6		+·0004	+·0002	− 1·8	− 0·2	+·0002
47	71·8	98·1		95·0		+·0004	+·0002	− 1·6	− 0·2	+·0002
52	72·0	97·9		95·7		+·0003	+·0002	− 1·6	− 0·1	+·0002
57	72·0	98·1		95·7		+·0004	+·0002	− 1·8	− 0·2	+·0002

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Van Diemen Island.

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OBSERVATIONS OF THE MAGNETOMETERS. The Declination was observed 2m. before, and the V. F. 1m. after the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
24 14 02	72·3	97·6	54·8	96·5	53·6	+·0003	+·0002	− 1·7	− 0·1	+·0002
07	72·5	97·6		96·5		+·0003	+·0002	− 1·7	− 0·1	+·0002
12	72·9	97·5		96·5		+·0003	+·0002	− 1·6	− 0·1	+·0002
17	73·2	97·5		—		—	—	− 1·5	—	—
22	73·2	97·4		96·9		+·0003	+·0002	− 1·7	− 0·1	+·0002
27	73·5	97·2		96·9		+·0002	+·0002	− 1·7	0·0	+·0002
32	73·5	97·0		96·8		+·0002	+·0002	− 1·8	0·0	+·0002
37	73·7	96·8		97·0		+·0002	+·0002	− 1·8	0·0	+·0002
42	74·0	96·7		97·0		+·0002	+·0002	− 1·8	0·0	+·0002
47	74·1	96·6		97·8		+·0001	+·0002	− 1·9	+ 0·1	+·0002
52	74·4	96·6		97·8		+·0002	+·0002	− 1·8	0·0	+·0002
57	74·6	96·7		97·1		+·0002	+·0002	− 1·9	0·0	+·0002
15 02	75·1	96·6	55·2	97·0	53·8	+·0002	+·0002	− 1·7	0·0	+·0002
07	75·3	96·6		97·7		+·0002	+·0002	− 1·7	0·0	+·0002
12	75·2	96·5		98·0		+·0001	+·0002	− 1·9	+ 0·1	+·0002
17	75·6	96·4		98·2		+·0001	+·0002	− 1·8	+ 0·1	+·0002
22	75·6	96·3		98·7		·0000	+·0003	− 1·9	+ 0·3	+·0003
27	75·8	96·4		94·9		·0000	+·0001	− 1·9	+ 0·1	+·0001
32	76·2	96·5		—		—	—	− 1·8	—	—
37	76·8	96·9		99·4		+·0001	+·0003	− 1·5	+ 0·2	+·0003
42	77·2	96·7		95·3		·0000	+·0001	− 1·3	+ 0·1	+·0002
47	77·1	96·7		94·7		·0000	+·0001	− 1·5	+ 0·1	+·0001
52	77·2	96·7		98·8		−·0001	+·0003	− 1·6	+ 0·4	+·0003
57	77·4	96·7		98·3		−·0001	+·0002	− 1·6	+ 0·3	+·0002
16 02	77·7	96·9	55·0	96·5	54·0	−·0001	+·0002	− 1·5	+ 0·3	+·0002
07	78·3	96·8		96·4		−·0001	+·0002	− 1·2	+ 0·3	+·0002
12	78·2	96·7		97·3		−·0001	+·0002	− 1·3	+ 0·3	+·0002
17	78·3	96·8		95·6		−·0001	+·0001	− 1·3	+ 0·2	+·0001
22	78·7	96·8		94·6		−·0001	+·0001	− 1·1	+ 0·2	+·0001
27	78·9	96·8		98·4		−·0001	+·0003	− 1·1	+ 0·4	+·0003
32	79·2	97·0		97·2		−·0001	+·0002	− 0·8	+ 0·3	+·0002
37	79·1	97·0		96·9		−·0001	+·0002	− 1·0	+ 0·3	+·0002
42	79·4	97·2		98·2		−·0001	+·0003	− 0·8	+ 0·4	+·0003
47	79·6	96·9		96·1		−·0001	+·0002	− 0·8	+ 0·3	+·0002
52	79·6	96·6		97·6		−·0002	+·0002	− 0·8	+ 0·4	+·0002
57	79·7	96·8		95·5		−·0002	+·0002	− 0·8	+ 0·4	+·0002
17 02	79·8	96·7	55·4	97·3	54·4	−·0002	+·0002	− 0·8	+ 0·4	+·0002
07	80·8	96·7		97·2		−·0002	+·0002	− 0·1	+ 0·4	+·0002
12	80·1	96·6		97·6		−·0003	+·0003	− 0·6	+ 0·7	+·0002
17	80·0	96·7		96·8		−·0002	+·0002	− 0·6	+ 0·4	+·0002
22	80·0	96·9		96·7		−·0002	+·0002	− 0·6	+ 0·4	+·0002
27	80·2	97·3		96·2		−·0001	+·0002	− 0·4	+ 0·3	+·0002
32	80·2	97·2		95·5		−·0002	+·0002	− 0·4	+ 0·4	+·0002
37	80·3	97·8		95·3		−·0001	+·0002	− 0·2	+ 0·3	+·0002
42	80·2	97·9		94·3		−·0001	+·0002	− 0·2	+ 0·3	+·0002
47	80·2	98·0		93·7		·0000	+·0002	− 0·2	+ 0·2	+·0002
52	80·0	98·0		92·4		−·0001	+·0001	− 0·3	+ 0·2	+·0001
57	79·8	98·1		93·3		·0000	+·0002	− 0·4	+ 0·2	+·0002
18 02	79·8	98·3	56·0	93·3	54·8	·0000	+·0002	− 0·4	+ 0·2	+·0002
07	79·4	98·3		93·2		·0000	+·0002	− 0·6	+ 0·2	+·0002
12	79·7	98·7		91·6		+·0001	+·0001	− 0·2	0·0	+·0001
17	79·4	98·4		92·2		·0000	+·0002	− 0·4	+ 0·2	+·0002
22	79·8	98·8		91·5		+·0001	+·0001	0·0	0·0	+·0001
27	79·8	98·7		90·3		·0000	+·0001	+ 0·1	+ 0·1	+·0001
32	79·6	98·9		90·3		·0000	+·0001	+ 0·1	+ 0·1	+·0001
37	79·6	99·2		89·8		+·0001	+·0001	+ 0·1	0·0	+·0001
42	80·0	99·8		89·3		+·0002	+·0001	+ 0·5	− 0·1	+·0001
47	80·0	100·0		88·6		+·0002	+·0001	+ 0·6	− 0·1	+·0001
52	80·0	100·2		87·9		+·0003	+·0001	+ 0·7	− 0·2	+·0001
57	79·9	100·0		87·9		+·0002	+·0001	+ 0·7	− 0·1	+·0001
19 02	79·8	100·3	56·0	87·3	55·0	+·0002	+·0001	+ 1·7	− 0·1	+·0001
07	79·6	100·7		86·7		+·0003	·0000	+ 0·6	− 0·3	·0000

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Van Diemen Island.

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OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
						$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
24 19 12	79·4	100·7		86·5		+·0003	·0000	+ 0·6	− 0·3	·0000
17	79·3	100·9		85·8		+·0004	·0000	+ 0·6	− 0·4	·0000
22	79·2	101·0		85·4		+·0004	·0000	+ 0·6	− 0·4	·0000
27	79·0	101·1		84·9		+·0004	·0000	+ 0·5	− 0·4	·0000
32	78·8	101·0		85·4		+·0004	·0000	+ 0·4	− 0·4	·0000
37	78·9	101·0		85·3		+·0004	·0000	+ 0·6	− 0·4	·0000
42	78·4	101·3		84·6		+·0004	·0000	+ 0·3	− 0·4	·0000
47	78·3	101·4		84·6		+·0004	·0000	+ 0·3	− 0·4	·0000
52	78·3	101·7		83·7		+·0005	·0000	+ 0·4	− 0·5	+·0001
57	78·0	101·7		82·6		+·0005	−·0001	+ 0·2	− 0·7	·0000
20 02	77·9	101·9	56·0	82·2	55·2	+·0005	−·0001	+ 0·2	− 0·7	·0000
07	77·7	102·2		81·9		+·0006	−·0001	+ 0·1	− 0·8	·0000
12	77·8	102·4		81·6		+·0007	−·0001	+ 0·3	− 0·9	·0000
17	77·7	102·1		81·3		+·0006	−·0001	+ 0·3	− 0·8	·0000
22	77·4	102·4		80·8		+·0007	−·0001	+ 0·1	− 0·9	·0000
27	77·3	102·3		80·8		+·0007	−·0001	+ 0·1	− 0·9	·0000
32	77·2	102·4		81·4		+·0007	−·0001	+ 0·1	− 0·9	·0000
37	77·5	102·9		80·9		+·0008	−·0001	+ 0·4	− 1·0	·0000
42	77·3	103·2		80·2		+·0009	−·0002	+ 0·3	− 1·2	−·0001
47	77·2	103·4		78·3		+·0010	−·0002	+ 0·3	− 1·3	−·0001
52	77·1	103·2		78·7		+·0009	−·0002	+ 0·3	− 1·2	−·0001
57	77·0	103·0		79·2		+·0009	−·0002	+ 0·3	− 1·2	−·0001
21 02	76·9	102·8	56·4	78·3	55·3	+·0009	−·0002	+ 0·3	− 1·2	−·0001
07	76·8	102·8		78·5		+·0009	−·0002	+ 0·3	− 1·2	−·0001
12	76·7	103·3		79·5		+·0010	−·0002	+ 0·4	− 1·3	−·0001
17	76·7	103·0		78·9		+·0009	−·0002	+ 0·4	− 1·2	−·0001
22	76·6	103·1		79·4		+·0009	−·0002	+ 0·5	− 1·2	−·0001
27	76·3	103·1		79·4		+·0009	−·0002	+ 0·4	− 1·2	−·0001
32	76·2	103·0		79·1		+·0009	−·0002	+ 0·4	− 1·2	−·0001
37	76·2	102·8		79·1		+·0009	−·0002	+ 0·5	− 1·2	−·0001
42	76·2	102·6		79·9		+·0009	−·0001	+ 0·6	− 1·1	·0000
47	76·1	102·7		79·8		+·0009	−·0001	+ 0·6	− 1·1	·0000
52	76·2	102·9		79·8		+·0010	−·0001	+ 0·8	− 1·2	·0000
57	76·2	102·7		79·9		+·0009	−·0001	+ 0·9	− 1·1	·0000
22 02	76·4	102·5	56·5	80·2	55·5	+·0009	−·0001	+ 1·1	− 1·1	·0000
07	76·5	102·1		81·5		+·0008	·0000	+ 1·3	− 0·9	+·0001
12	76·4	101·8		81·9		+·0007	·0000	+ 1·2	− 0·8	+·0001
17	76·4	101·6		82·9		+·0007	·0000	+ 1·3	− 0·8	+·0001
22	76·4	101·6		82·1		+·0007	·0000	+ 1·3	− 0·8	+·0001
27	76·3	101·6		82·8		+·0007	·0000	+ 1·3	− 0·8	+·0001
32	76·3	101·7		82·8		+·0007	·0000	+ 1·3	− 0·8	+·0001
37	76·5	101·8		84·0		+·0007	+·0001	+ 1·5	− 0·7	+·0002
42	76·7	101·7		83·9		+·0007	·0000	+ 1·7	− 0·8	+·0001
47	76·6	101·7		83·5		+·0007	·0000	+ 1·7	− 0·8	+·0001
52	76·2	101·5		83·5		+·0006	·0000	+ 1·5	− 0·7	+·0001
57	75·7	101·4		83·4		+·0006	·0000	+ 1·1	− 0·7	+·0001
23 02	75·0	101·0	56·5	84·1	55·5	+·0005	+·0001	+ 0·7	− 0·4	+·0001
07	75·0	101·3		82·3		+·0006	·0000	+ 0·8	− 0·7	+·0001
12	74·1	101·0		82·1		+·0005	·0000	+ 0·3	− 0·5	+·0001
17	73·2	100·4		81·4		+·0004	−·0001	− 0·3	− 0·5	·0000
22	72·4	100·5		81·6		+·0004	·0000	− 0·8	− 0·4	·0000
27	72·1	100·6		82·7		+·0004	·0000	− 0·9	− 0·4	·0000
32	72·9	101·0		82·7		+·0004	·0000	− 0·2	− 0·4	·0000
37	73·0	101·2		80·3		+·0005	−·0001	− 0·1	− 0·7	·0000
42	70·5	101·4		79·5		+·0005	−·0001	− 1·8	− 0·7	·0000
47	69·7	101·6		79·2		+·0006	−·0001	− 2·2	− 0·8	·0000
52	69·3	101·7		78·6		+·0006	−·0001	− 2·4	− 0·8	·0000
57	69·8	101·6		80·0		+·0005	−·0001	− 2·0	− 0·7	·0000
25 00 02	71·2	101·3	56·2	81·0	55·4	+·0005	·0000	− 0·9	− 0·5	+·0001
07	71·9	100·7		82·5		+·0003	·0000	− 0·4	− 0·3	·0000
12	—	100·4		83·6		+·0002	+·0001	—	− 0·1	+·0001
17	72·0	100·5		83·8		+·0002	+·0001	− 0·3	− 0·1	+·0001

1844.
Van Diemen Island.

April 25.

OBSERVATIONS OF THE MAGNETOMETERS. The Declination was observed 2m. before, and the V. F. 1m. after the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
25 00 22	72·3	100·7		84·9		+·0003	+·0001	− 0·1	− 0·2	+·0001
27	73·2	101·2		85·6		+·0004	+·0001	+ 0·6	− 0·3	+·0001
32	73·5	102·0		84·7		+·0006	+·0001	+ 0·8	− 0·5	+·0002
37	73·8	101·7		84·5		+·0005	+·0001	+ 1·1	− 0·4	+·0001
42	74·3	101·2		84·5		+·0004	+·0001	+ 1·4	− 0·3	+·0001
47	74·2	100·4		85·9		+·0001	+·0001	+ 1·3	0·0	+·0001
52	73·8	100·1		85·4		+·0001	+·0001	+ 1·1	0·0	+·0001
57	72·9	100·5		86·2		+·0001	+·0001	+ 0·5	0·0	+·0001
01 02	72·8	100·1	56·2	85·4	55·4	+·0001	+·0001	+ 0·4	0·0	+·0001
07	71·8	99·9		86·0		·0000	+·0001	− 0·3	+ 0·1	+·0001
12	71·8	99·5		87·0		−·0001	+·0002	− 0·3	+ 0·3	+·0002
17	71·8	99·5		87·9		−·0001	+·0002	− 0·3	+ 0·3	+·0002
22	72·2	99·2		88·3		−·0001	+·0002	0·0	+ 0·3	+·0002
27	71·9	98·5		88·8		−·0002	+·0002	− 0·2	+ 0·4	+·0002
32	71·8	98·5		89·5		−·0002	+·0003	− 0·3	+ 0·5	+·0002
37	71·0	97·5		90·2		−·0004	+·0003	− 0·8	+ 0·8	+·0002
42	70·1	97·5		91·0		−·0004	+·0003	− 1·4	+ 0·8	+·0002
47	70·7	97·2		92·1		−·0005	+·0004	− 1·0	+ 1·0	+·0003
52	70·0	96·2		91·5		−·0007	+·0003	− 1·5	+ 0·1	+·0002
57	67·0	99·4		88·5		+·0001	+·0002	− 3·7	+ 0·1	+·0002
02 02	62·3	100·6	56·4	80·3	55·4	+·0004	−·0001	− 7·0	− 0·5	·0000
07	61·2	101·7		80·7		+·0006	−·0001	− 7·8	− 0·8	·0000
12	62·0	101·6		79·1		+·0006	−·0001	− 7·3	− 0·8	·0000
17	65·3	103·7		78·2		+·0010	−·0001	− 5·0	− 1·2	·0000
22	66·8	104·3		72·2		+·0012	−·0003	− 4·0	− 1·6	−·0001
27	64·3	105·3		68·3		+·0014	−·0005	− 5·8	− 2·0	−·0003
32	63·1	106·2		65·3		+·0016	−·0006	− 6·8	− 2·4	−·0004
37	63·6	104·7		67·0		+·0012	−·0005	− 6·4	− 1·8	−·0003
42	65·5	103·2		68·9		+·0008	−·0004	− 5·1	− 1·3	−·0003
47	66·2	100·5		73·2		+·0002	−·0003	− 4·7	− 0·5	−·0002
52	66·1	98·9		76·5		−·0002	−·0002	− 4·9	0·0	−·0002
57	66·7	98·1		80·2		−·0004	·0000	− 4·4	+ 0·4	·0000
03 02	66·5	97·5	56·0	82·8	55·4	−·0005	+·0001	− 4·7	+ 0·7	·0000
07	65·8	96·6		84·2		−·0007	+·0001	− 5·2	+ 0·9	·0000
12	64·5	97·1		85·3		−·0006	+·0002	− 6·1	+ 0·9	+·0001
17	63·8	98·0		85·0		−·0004	+·0002	− 6·7	+ 0·7	+·0001
22	64·6	99·1		85·0		−·0002	+·0002	− 6·1	+ 0·4	+·0002
27	66·0	99·2		85·4		−·0001	+·0002	− 5·2	+ 0·3	+·0002
32	67·8	99·3		85·6		−·0001	+·0002	− 4·0	+ 0·3	+·0002
37	68·7	99·4		86·2		−·0001	+·0002	− 3·3	+ 0·3	+·0002
42	69·7	99·4		86·4		−·0001	+·0002	− 2·6	+ 0·3	+·0002
47	69·8	99·1		86·5		−·0002	+·0002	− 2·6	+ 0·4	+·0002
52	70·0	99·0		88·1		−·0002	+·0003	− 2·5	+ 0·5	+·0002
57	70·9	99·0		88·3		−·0002	+·0003	− 1·9	+ 0·5	+·0002
04 02	72·0	99·0	56·0	89·3	55·4	−·0002	+·0003	− 1·1	+ 0·5	+·0002
07	73·0	99·0		90·9		−·0002	+·0004	− 0·6	+ 0·7	+·0003
12	73·5	99·1		90·1		−·0001	+·0003	− 0·4	+ 0·4	+·0003
17	73·8	99·3		90·6		−·0001	+·0004	− 0·2	+ 0·5	+·0003
22	74.3	99·9		90·5		+·0001	+·0003	0·0	+ 0·2	+·0003
27	74·6	100·0		89·2		+·0001	+·0003	+ 0·1	+ 0·2	+·0003
32	73·9	99·7		88·7		+·0001	+·0003	− 0·6	+ 0·2	+·0003
37	73·9	99·9		88·9		+·0001	+·0003	− 0·7	+ 0·2	+·0003
42	74·3	100·2		89·0		+·0002	+·0003	− 0·6	+ 0·1	+·0003
47	74·3	100·0		88·0		+·0002	+·0002	− 0·6	0·0	+·0002
52	73·7	99·8		87·7		+·0002	+·0002	− 1·2	0·0	+·0002
57	73·7	100·1		87·5		+·0003	+·0002	− 1·3	− 0·1	+·0002
05 02	73·8	99·7	56·3	87·7	55·3	+·0002	+·0002	− 1·4	0·0	+·0002
07	74·3	99·6		87·7		+·0001	+·0002	− 1·1	+ 0·1	+·0002
12	73·6	99·6		86·8		+·0001	+·0002	− 1·6	+ 0·1	+·0002
17	72·4	99·5		86·7		+·0001	+·0002	− 2·5	+ 0·1	+·0002
22	71·8	99·5		86·2		+·0001	+·0002	− 2·9	+ 0·1	+·0002
27	71·5	99·4		86·0		+·0001	+·0002	− 3·1	+ 0·1	+·0002

1844.
Van Diemen Island.

April 25.

OBSERVATIONS OF THE MAGNETOMETERS. The Declination was observed 2m. before, and the V. F. 1m. after the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta \psi$	$\Delta \theta$	$\frac{\Delta \phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
25 05 32	71·6	99·4		86·0		+·0001	+·0002	− 3·1	+ 0·1	+·0002
37	72·0	—		—				− 2·8	—	—
42	73·6	100·3		86·3		+·0002	+·0002	− 1·7	0·0	+·0002
47	75·6	100·1		88·4		+·0001	+·0003	− 0·3	+ 0·2	+·0003
52	77·5	99·9		89·6		+·0001	+·0004	+ 1·0	+ 0·3	+·0004
57	78·1	99·8		90·8		+·0001	+·0004	+ 1·4	+ 0·3	+·0004
06 02	79·5	101·2	56·2	89·9	55·2	+·0004	+·0004	+ 2·4	0·0	+·0004
07	81·2	102·3		89·3		+·0006	+·0004	+ 3·7	− 0·2	+·0004
12	81·6	103·0		88·2		+·0008	+·0003	+ 3·9	− 0·5	+·0004
17	82·1	103·6		85·2		+·0009	+·0002	+ 4·2	− 0·8	+·0003
22	81·4	103·7		83·6		+·0010	+·0001	+ 3·7	− 1·0	+·0002
27	80·8	103·2		81·7		+·0009	+·0001	+ 3·2	− 0·9	+·0002
32	79·7	103·9		80·9		+·0010	+·0001	+ 2·4	− 1·0	+·0002
37	77·9	103·8		77·4		+·0010	−·0001	+ 1·1	− 1·2	·0000
42	75·5	103·0		76·3		+·0008	−·0001	− 0·6	− 1·0	·0000
47	74·3	102·0		76·7		+·0006	−·0001	− 1·4	− 0·8	·0000
52	74·0	100·8		78·6		+·0003	·0000	− 1·7	− 0·3	·0000
57	74·1	99·5		80·8		·0000	+·0001	− 1·6	+ 0·1	+·0001
07 02	75·1	97·6	56·1	84·7	55·1	−·0004	+·0002	− 0·9	+ 0·7	+·0001
07	75·1	95·5		90·6		−·0009	+·0004	− 0·9	+ 1·4	+·0003
12	76·9	94·0		95·6		−·0013	+·0006	+ 0·4	+ 2·0	+·0004
17	79·2	93·0		100·4		−·0015	+·0008	+ 2·0	+ 2·5	+·0005
22	81·3	92·8		104·9		−·0016	+·0009	+ 3·6	+ 2·7	+·0006
27	84·5	93·0		107·5		−·0015	+·0010	+ 5·8	+ 2·7	+·0007
32	85·9	93·4		106·4		−·0015	+·0010	+ 6·9	+ 2·7	+·0007
37	85·5	94·7		102·7		−·0012	+·0009	+ 6·6	+ 2·3	+·0007
42	83·8	96·1		96·8		−·0009	+·0007	+ 5·4	+ 1·7	+·0005
47	82·2	97·2		91·3		−·0006	+·0005	+ 4·3	+ 1·2	+·0004
52	80·1	98·7		85·5		−·0003	+·0003	+ 2·8	+ 0·7	+·0002
57	78·4	99·7		81·4		−·0001	+·0001	+ 1·6	+ 0·2	+·0001
08 02	77·5	100·2	56·0	78·1	55·0	+·0001	·0000	+ 1·0	− 0·1	·0000
07	76·8	100·2		75·6		+·0001	−·0001	+ 0·6	− 0·2	−·0001
12	76·0	99·8		74·6		−·0001	−·0001	0·0	0·0	−·0001
17	75·3	99·3		74·2		−·0002	−·0001	− 0·4	+ 0·1	−·0001
22	74·8	98·9		74·7		−·0002	−·0001	− 0·8	+ 0·1	−·0001
27	74·5	98·7		76·2		−·0003	−·0001	− 0·9	+ 0·2	−·0001
32	74·7	98·1		76·3		−·0004	·0000	− 0·8	+ 0·4	·0000
37	74·3	98·4		76·8		−·0004	·0000	− 1·0	+ 0·4	·0000
42	74·4	98·4		77·8		−·0004	·0000	− 0·8	+ 0·4	·0000
47	74·6	98·7		77·6		−·0003	·0000	− 0·7	+ 0·3	·0000
52	75·1	99·0		78·8		−·0002	+·0001	− 0·3	+ 0·3	+·0001
57	75·2	98·1		78·4		−·0004	+·0001	− 0·2	+ 0·5	·0000
09 02	74·0	98·4	56·0	78·4	55·2	−·0003	+·0001	− 1·0	+ 0·4	+·0001
07	74·6	99·0		78·3		−·0002	+·0001	− 0·6	+ 0·3	+·0001
12	74·5	99·1		78·2		−·0001	+·0001	− 0·6	+ 0·2	+·0001
17	73·6	99·7		77·6		·0000	·0000	− 1·2	0·0	·0000
22	74·1	99·7		77·7		·0000	·0000	− 0·8	0·0	·0000
27	74·0	99·6		76·3		·0000	·0000	− 0·9	0·0	·0000
32	73·9	99·5		76·3		·0000	·0000	− 0·9	0·0	·0000
37	73·4	99·5		76·8		·0000	·0000	− 1·3	0·0	·0000
42	73·6	99·4		77·5		·0000	·0000	− 1·1	0·0	·0000
47	73·4	99·5		77·6		·0000	·0000	− 1·3	0·0	·0000
52	73·9	99·9		77·7		+·0001	·0000	− 0·8	− 0·1	·0000
57	74·0	99·5		78·5		+·0001	·0000	− 0·8	− 0·1	·0000

1844.
Cape of Good Hope.

April 25.

For Mean Monthly Readings, *see* page 321.

CAPE OF GOOD HOPE, 1844. APRIL 25.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
25 05 02	52·0	46·0	64·6	23·0	64·5	+·0002	−·0001	+ 0·5	− 0·5	·0000
06 02	51·0	43·4	64·2	25·5	64·2	−·0007	+·0003	− 0·2	+ 1·7	−·0001
07 02	47·4	48·1	64·0	30·0	64·1	+·0009	+·0011	− 2·7	+ 0·3	+·0010
17	44·1	45·0		29·0		−·0002	+·0009	− 5·3	+ 1·8	+·0005
32	44·9	45·2		26·9		−·0001	+·0006	− 4·7	+ 1·2	+·0004
47	47·5	45·1		24·2		−·0001	+·0002	− 2·8	+ 0·5	+·0001
08 02	50·4	42·4	64·2	23·1	64·4	−·0011	·0000	− 0·7	+ 1·8	−·0004
17	49·5	41·6		24·8		−·0014	+·0003	− 1·4	+ 2·8	−·0003
32	50·0	42·6		23·6		−·0010	+·0001	− 1·1	+ 1·8	−·0003
47	50·9	43·0		22·2		−·0009	−·0001	− 0·5	+ 1·3	−·0004
09 02	51·0	44·0	64·3	21·5	64·4	−·0005	−·0002	− 0·4	+ 0·5	−·0003
17	51·1	44·1		20·8		−·0005	−·0003	− 0·3	+ 0·3	−·0004
32	51·1	44·6		20·5		−·0003	−·0003	− 0·4	0·0	−·0003
47	51·5	44·8		20·2		−·0003	−·0004	− 0·1	− 0·2	−·0004
10 02	51·7	45·1	64·5	19·9	64·5	−·0001	−·0004	+ 0·1	− 0·5	−·0003
11 02	51·0	45·0	64·3	21·2	64·3	−·0004	−·0002	− 0·6	+ 0·3	−·0003
12 02	45·1	47·1	64·0	22·9	63·9	+·0003	+·0001	− 4·8	− 0·3	+·0002
17	51·0	46·9		22·0		+·0001	·0000	− 0·6	− 0·2	·0000
32	52·8	47·1		18·6		+·0001	−·0006	+ 0·5	− 1·2	−·0004
47	52·0	47·2		18·6		·0000	−·0005	− 0·2	− 0·8	−·0003
13 02	52·0	47·0	63·7	18·9	63·9	−·0001	−·0004	− 0·5	− 0·5	−·0003
17	51·1	46·1		20·1		−·0004	−·0003	− 1·1	+ 0·2	−·0003
32	51·0	46·1		20·5		−·0004	−·0002	− 1·1	+ 0·3	−·0003
47	51·1	46·0		20·5		−·0005	−·0002	− 1·0	+ 0·5	−·0003
14 02	51·9	46·1	63·7	20·5	63·8	−·0004	−·0003	− 0·4	+ 0·2	−·0003

1844.
Van Diemen Island.

April 25—26.

For Mean Monthly Readings, *see* page 320.

VAN DIEMEN ISLAND, 1844. APRIL 25—26.

25 23 02	74·2	97·1	58·4	78·2	57·2	·0000	+·0002	+ 0·1	+ 0·2	+·0002
26 00 02	55·4	99·7	58·2	59·9	57·2	+·0006	−·0004	−12·1	− 1·1	−·0003
07	55·0	100·8		58·1		+·0008	−·0005	−12·4	− 1·4	−·0004
12	55·7	97·9		57·7		+·0001	−·0005	−11·9	− 0·7	−·0004
17	54·0	93·7		60·1		−·0009	−·0004	−13·1	+ 0·5	−·0005
22	49·2	94·1		61·9		−·0008	−·0003	−16·5	+ 0·5	−·0004
27	46·7	95·1		61·5		−·0006	−·0004	−18·3	+ 0·2	−·0004
32	46·8	95·3		60·7		−·0005	−·0004	−18·1	+ 0·1	−·0004
37	48·2	98·9		63·0		+·0003	−·0003	−17·1	− 0·7	−·0002
42	50·7	93·0		68·0		−·0011	−·0001	−15·3	+ 1·1	−·0002
47	52·9	90·2		73·4		−·0017	+·0001	−13·8	+ 1·9	−·0001
52	54·4	90·3		78·2		−·0017	+·0002	−12·6	+ 2·0	·0000
57	56·2	90·9		81·2		−·0016	+·0003	−11·4	+ 2·0	+·0001
01 02	59·7	91·7	58·4	85·2	57·2	−·0014	+·0005	− 8·9	+ 2·0	+·0003
07	63·1	91·6		89·2		−·0014	+·0006	− 6·5	+ 2·2	+·0004
12	67·4	91·7		91·3		−·0013	+·0007	− 3·4	+ 2·2	+·0005
17	70·2	90·0		92·8		−·0017	+·0008	− 1·4	+ 2·7	+·0005
22	70·0	89·3		93·9		−·0019	+·0008	− 1·6	+ 2·9	+·0005
27	68·8	89·8		94·0		−·0017	+·0008	− 2·4	+ 2·7	+·0005
32	68·7	—		—		—	—	− 2·5	—	—
52	72·3	93·8		88·9		−·0007	+·0007	+ 0·1	+ 1·5	+·0006
57	72·8	93·5		88·3		−·0008	+·0007	+ 0·5	+ 1·6	+·0005
02 02	73·2	94·0	58·6	87·7	57·6	−·0006	+·0007	+ 0·8	+ 1·4	+·0006
07	73·5	93·7		86·8		−·0007	+·0006	+ 0·9	+ 1·4	+·0005
12	73·2	93·4		87·0		−·0008	+·0007	+ 0·6	+ 1·6	+·0005

1844.
Van Diemen Island.

April 26.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm.	Sc. Div.	Therm.	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
26 02 17	73·6	94·2		86·6		−·0006	+·0007	+ 0·9	+ 1·4	+·0006
22	73·9	94·3		86·0		−·0006	+·0006	+ 1·1	+ 1·3	+·0005
27	74·2	95·1		84·4		−·0004	+·0006	+ 1·2	+ 1·1	+·0005
32	74·2	94·4		83·9		−·0006	+·0006	+ 1·1	+ 1·3	+·0005
37	74·0	94·4		84·0		−·0006	+·0006	+ 1·0	+ 1·3	+·0005
42	73·8	94·4		83·4		−·0006	+·0006	+ 0·8	+ 1·3	+·0005
47	73·8	94·2		83·4		−·0006	+·0006	+ 0·7	+ 1·3	+·0005
52	74·0	—		—		—	—	+ 0·8	—	—
03 02	74·4	94·0	58·8	84·4	57·8	−·0008	+·0006	+ 1·0	+ 1·5	+·0005
04 02	70·3	95·6	59·0	76·0	58·0	−·0003	+·0004	− 2·3	+ 0·8	+·0003
05 02	83·3	98·2	58·8	83·8	57·8	+·0004	+·0006	+ 5·3	+ 0·2	+·0006
07	83·8	98·2		83·8		+·0004	+·0006	+ 5·7	+ 0·2	+·0006
12	83·3	99·1		78·4		+·0006	+·0004	+ 5·3	− 0·2	+·0004
17	81·4	100·4		74·8		+·0009	+·0003	+ 3·9	− 0·7	+·0004
22	79·9	99·9		70·9		+·0007	+·0002	+ 2·8	− 0·5	+·0003
27	77·8	99·2		69·3		+·0006	+·0001	+ 1·4	− 0·5	+·0002
32	75·8	97·8		68·5		+·0002	+·0001	− 0·1	− 0·1	+·0001
37	74·3	97·0		70·4		·0000	+·0002	− 1·2	+ 0·2	+·0002
42	74·9	95·3		71·9		−·0003	+·0002	− 0·8	+ 0·5	+·0001
47	73·6	95·1		73·0		−·0004	+·0003	− 1·7	+ 0·8	+·0002
52	73·6	94·9		74·7		−·0005	+·0004	− 1·8	+ 1·0	+·0003
06 02	74·5	93·7	58·8	77·9	57·8	−·0009	+·0005	− 1·1	+ 1·5	+·0004

1844.
Cape of Good Hope.

April 26.

For Mean Monthly Readings, *see* page 321.

CAPE OF GOOD HOPE, 1844. APRIL 26.

26 11 02	51·5	44·0	65·0	19·9	64·9	−·0005	−·0004	− 0·2	+ 0·2	−·0004
12 02	51·8	44·1	65·0	19·9	64·9	−·0005	−·0004	+ 0·2	+ 0·2	−·0004
13 02	55·0	46·0	64·9	18·3	64·9	−·0001	−·0005	+ 1·8	− 0·7	−·0004
32	55·2	46·8		17·1		+·0002	−·0007	+ 2·0	− 1·5	−·0004
47	54·0	46·3		18·2		·0000	−·0006	+ 1·2	− 1·0	−·0004
14 02	53·0	45·9	64·9	19·5	64·9	−·0001	−·0004	+ 0·5	− 0·5	−·0003
17	53·1	46·2		19·0		·0000	−·0004	+ 0·5	− 0·7	−·0003
32	53·0	46·0		19·0		−·0001	−·0004	+ 0·3	− 0·5	−·0003
15 02	52·5	45·3	65·0	19·7	65·0	−·0003	−·0003	− 0·2	0·0	−·0003

1844.
Van Diemen Island.

April 29.

For Mean Monthly Readings, *see* page 320.

VAN DIEMEN ISLAND, 1844. APRIL 29.

29 06 02	76·8	101·0	53·8	93·2	53·0	−·0002	·0000	+ 0·5	+ 0·2	·0000
07 02	81·3	100·7	53·5	95·7	53·0	−·0003	+·0001	+ 3·5	+ 0·4	+·0001
07	82·5	100·5		95·7		−·0004	+·0001	+ 4·3	+ 0·5	·0000
12	82·9	100·1		98·6		−·0005	+·0003	+ 4·7	+ 0·9	+·0002
17	83·4	—		—		—	—	+ 5·0	—	—
22	84·1	99·4		101·6		−·0006	+·0004	+ 5·5	+ 1·1	+·0003
27	84·3	99·6		102·0		−·0006	+·0004	+ 5·7	+ 1·1	+·0003
32	84·2	100·0		100·3		−·0005	+·0003	+ 5·7	+ 0·9	+·0002
37	83·1	100·1		98·5		−·0005	+·0003	+ 4·9	+ 0·9	+·0002
42	81·8	100·5		97·8		−·0004	+·0002	+ 4·0	+ 0·7	+·0001
47	80·9	100·7		94·8		−·0003	+·0001	+ 3·3	+ 0·4	+·0001
52	89·9	100·6		93·5		−·0004	+·0001	+ 9·8	+ 0·5	·0000
57	78·9	100·8		92·1		−·0003	+·0001	+ 2·0	+ 0·4	+·0001
08 02	78·4	101·0	53·7	91·3	52·9	−·0003	·0000	+ 1·6	+ 0·3	·0000
09 02	75·8	102·5	53·7	85·6	52·8	+·0001	−·0002	+ 0·3	− 0·3	−·0002
10 02	75·5	102·1	53·5	88·1	52·8	+·0001	−·0001	+ 0·3	− 0·2	−·0001
11 02	73·9	102·5	53·4	85·5	52·6	+·0002	−·0002	+ 0·4	− 0·4	−·0002

1844. Cape of Good Hope. May 6.

CAPE OF GOOD HOPE, 1844. MAY 6.

MEAN MONTHLY READINGS OF THE MAGNETOMETERS.

Mean Göttingen Time.	Declination.	H. F. at 61°·5.	V. F. at 61°·7.	Mean Göttingen Time.	Declination.	H. F. at 61°·5.	V. F. at 61°·7.
Hours.	Sc. Div.	Sc. Div.	Sc. Div.	Hours.	Sc. Div.	Sc. Div.	Sc. Div.
00	51·6	49·0	19·1	12	52·2	48·1	20·8
01	52·0	48·7	19·4	13	52·5	48·3	20·4
02	52·2	48·6	20·1	14	52·6	48·2	20·5
03	52·1	48·7	21·0	15	53·1	48·4	20·2
04	51·5	48·8	21·9	16	53·2	48·5	20·6
05	51·3	48·8	21·9	17	53·4	48·4	20·4
06	51·3	48·6	21·8	18	53·6	48·9	19·6
07	51·5	48·3	21·5	19	53·7	49·3	20·0
08	51·7	48·1	21·3	20	51·9	49·7	21·8
09	51·6	47·9	21·3	21	50·0	49·7	22·3
10	52·0	47·9	21·0	22	49·3	49·5	21·7
11	52·1	48·2	20·8	23	50·0	49·2	20·0

Coefficients (A), Approximate Absolute Values (B.)

(A) Declin. $a = 0'·751$; H. F. $k = ·00035$, $q = ·00028$; V. F. $k = ·00017$, $q = ·00005$

(B) Approx. $\psi = 29° 05'$, $X = 4·46$, $Y = 6·00$, $\theta = -53° 17'$, $\phi = 7·50$

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
						$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
6 13 02	51·9	48·8	60·7	23·4	61·0	·0000	+·0005	− 0·5	+ 0·8	+·0003
14 02	52·2	48·7	60·6	24·1	60·9	−·0001	+·0006	− 0·3	+ 1·2	+·0004
15 02	52·0	48·7	60·4	23·7	60·7	−·0002	+·0005	− 0·8	+ 1·2	+·0003
16 02	53·0	49·1	59·9	33·6	60·6	−·0003	+·0022	− 0·2	+ 4·1	+·0013
17	53·0	49·4		31·5		−·0001	+·0018	− 0·2	+ 3·1	+·0011
32	52·9	49·6		28·9		·0000	+·0014	− 0·3	+ 2·3	+·0009
47	52·6	49·5		33·4		·0000	+·0022	− 0·6	+ 3·6	+·0014
17 02	52·5	49·4	60·0	32·5	60·8	−·0001	+·0020	− 0·7	+ 3·5	+·0013
17	52·8	49·5		22·1		−·0001	+·0003	− 0·5	+ 0·7	+·0002
32	52·5	49·6		22·2		−·0001	+·0003	− 0·8	+ 0·7	+·0002
47	52·5	49·7		22·3		−·0001	+·0004	− 0·8	+ 0·8	+·0002
18 02	52·5	49·8	60·0	22·6	61·0	−·0001	+·0005	− 0·8	+ 1·0	+·0003
17	52·8	50·0		21·3		−·0001	+·0002	− 0·6	+ 0·5	+·0001
32	52·8	50·0		21·4		−·0001	+·0002	− 0·7	+ 0·5	+·0001
19 02	53·0	50·5	60·0	22·2	60·6	·0000	+·0003	− 0·5	+ 0·5	+·0002

1844. Van Diemen Island. May.

VAN DIEMEN ISLAND, 1844. MAY 8.

MEAN MONTHLY READINGS OF THE MAGNETOMETERS.

Mean Göttingen Time.	Declination.	H. F. at 54°·0.	V. F. at 53°·2.	Mean Göttingen Time.	Declination.	H. F. at 54°·0.	V. F. at 53°·2.
Hours.	Sc. Div.	Sc. Div.	Sc. Div.	Hours.	Sc. Div.	Sc. Div.	Sc. Div.
00	74·6	103·2	91·8	12	75·1	102·8	85·7
01	73·8	103·0	91·7	13	74·9	101·8	88·2
02	73·8	103·3	91·7	14	75·0	101·3	87·2
03	74·0	103·2	92·5	15	76·8	100·5	90·0
04	74·8	103·6	91·9	16	78·8	100·3	92·9
05	75·6	103·4	91·6	17	79·3	100·8	93·4
06	76·8	103·7	90·8	18	79·2	101·8	94·3
07	76·2	103·5	89·7	19	78·4	102·6	95·0
08	76·6	103·8	89·0	20	77·2	103·6	91·4
09	75·9	104·4	87·0	21	76·8	103·4	91·5
10	75·9	104·4	85·5	22	75·7	103·6	91·1
11	75·6	103·9	85·6	23	75·2	103·5	91·2

Coefficients (A), Approximate Absolute Values (B).

(A) Declin. $a = 0'·71$; H. F. $k = ·000229$, $q = ·000230$; V. F. $k = ·000036$, $q = ·00021$

(B) Approx. $\psi = -9° 55'$, $X = 4·51$, $Y = 12·86$, $\theta = -70° 37'$, $\phi = 13·62$

1844. Van Diemen Island. May 8.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
						$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
8 00 02	73·8	97·7	59·8	74·5	58·8	+·0001	+·0006	− 0·6	+ 0·5	+·0005
01 02	77·1	101·2	59·7	76·5	58·5	+·0009	+·0006	+ 2·3	− 0·3	+·0006
02 02	71·8	101·3	59·4	67·0	58·2	+·0008	+·0002	− 1·4	− 0·7	+·0003
03 02	71·1	98·1	59·0	76·4	58·0	·0000	+·0004	− 2·1	+ 0·4	+·0004
04 02	75·0	99·0	58·8	79·5	57·4	·0000	+·0004	+ 0·1	+ 0·4	+·0004
05 02	74·7	99·1	58·2	80·5	57·2	·0000	+·0004	− 0·6	+ 0·4	+·0004
06 02	86·0	102·5	58·0	80·4	57·0	+·0006	+·0004	+ 6·5	− 0·2	+·0004
07	85·0	102·6		77·9		+·0007	+·0003	+ 5·9	− 0·4	+·0003
12	80·9	101·6		74·9		+·0004	+·0002	+ 3·0	− 0·2	+·0002
17	79·0	101·6		73·8		+·0004	+·0002	+ 1·7	− 0·2	+·0002
22	77·4	101·4		73·1		+·0004	+·0002	+ 0·6	− 0·2	+·0002
27	76·8	100·9		73·1		+·0003	+·0002	+ 0·2	− 0·1	+·0002
32	76·8	100·9		73·1		+·0003	+·0002	+ 0·2	− 0·1	+·0002
37	76·6	—		—		—	—	+ 0·1	—	—
07 02	76·0	99·8	58·0	75·8	56·8	+·0001	+·0003	− 0·1	+ 0·2	+·0003
08 02	76·0	99·7	57·9	79·0	56·3	·0000	+·0003	− 0·4	+ 0·3	+·0003
09 02	74·8	100·2	57·7	79·6	56·0	−·0001	+·0003	− 0·8	+ 0·4	+·0003
10 02	76·6	100·7	57·3	81·3	55·7	−·0001	+·0004	+ 0·5	+ 0·5	+·0003
11 02	79·1	97·5	57·2	89·8	55·5	−·0007	+·0006	+ 2·5	+ 1·4	+·0005

1844. Toronto. May 14.

TORONTO, 1844. MAY 14.

MEAN MONTHLY READINGS OF THE MAGNETOMETERS.

Mean Göttingen Time.	Declination.	H. F. at 60°·9.	V. F. at 60°·5.	Mean Göttingen Time.	Declination.	H. F. at 60°·9.	V. F. at 60°·5.
Hours.	Sc. Div.	Sc. Div.	Sc. Div.	Hours.	Sc. Div.	Sc. Div.	Sc. Div.
00	130·4	36·9	29·7	12	122·9	48·9	30·0
01	131·4	36·7	29·6	13	124·5	44·7	30·4
02	131·2	34·7	28·8	14	123·1	43·5	29·8
03	129·6	31·9	28·1	15	124·9	41·6	28·3
04	125·5	30·1	26·9	16	127·0	42·1	27·0
05	121·8	32·9	26·2	17	125·3	40·1	26·3
06	118·2	37·8	26·7	18	126·0	37·6	26·3
07	116·5	43·5	26·6	19	126·5	36·3	25·8
08	116·2	48·1	27·7	20	125·1	37·3	26·4
09	117·3	51·3	28·4	21	125·3	37·3	27·1
10	119·4	52·8	28·9	22	125·7	37·8	28·2
11	121·8	53·2	29·6	23	128·2	37·0	29·3

Coefficients (A).
Approximate Absolute Values (B).

(A)
- Declin. $a = 0'·721$
- H. F. $k = ·000087$, $q = ·00027$
- V. F. $k = ·000062$, $q = ·00007$

(B) Approx.
- $\psi = 1°\,25'$
- X = 3·54
- Y = 13·44
- $\theta = 75°\,16'$
- $\phi = 13·90$

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
						$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
14 14 02	125·0	41·2	59·8	38·8	59·0	−·0005	+·0005	+ 1·3	+ 0·9	+·0004
15 02	132·1	22·3	59·4	32·1	58·7	−·0021	+·0001	+ 5·1	+ 1·9	·0000
27	129·0	25·9		30·5		−·0018	+·0001	+ 2·3	+ 1·6	·0000
32	132·4	23·8		33·4		−·0020	+·0003	+ 4·6	+ 1·9	+·0001
37	138·0	23·5		29·3		−·0020	·0000	+ 8·5	+ 1·7	−·0001
42	144·5	19·4		29·9		−·0024	+·0001	+13·1	+ 2·1	−·0001
47	151·5	18·0		22·3		−·0025	−·0004	+18·0	+ 1·8	−·0005
52	156·4	22·4		22·4		−·0021	−·0004	+21·4	+ 1·4	−·0005
57	157·5	22·7		22·1		−·0021	−·0004	+22·1	+ 1·4	−·0005

1844. Toronto.

May 14.

OBSERVATIONS OF THE MAGNETOMETERS. The Declination was observed 2m. before, and the V. F. 1m. after the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta \psi$	$\Delta \theta$	$\frac{\Delta \phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
14 16 02	157·2	22·3	59·4	18·7	59·6	−·0021	−·0006	+21·7	+ 1·3	−·0007
07	157·0	26·5		20·0		−·0018	−·0005	+21·7	+ 1·1	−·0006
12	152·8	33·0		22·4		−·0012	−·0003	+18·8	+ 0·8	−·0004
17	148·7	35·0		22·4		−·0010	−·0003	+15·9	+ 0·6	−·0003
22	141·1	38·0		22·1		−·0008	−·0004	+10·6	+ 0·3	−·0004
27	136·9	38·6		22·1		−·0007	−·0003	+ 7·6	+ 0·3	−·0003
32	127·0	41·6		22·5		−·0004	−·0003	+ 7·8	+ 0·1	−·0003
37	134·3	45·6		22·9		−·0001	−·0003	+ 6·0	− 0·2	−·0003
42	132·5	45·0		22·9		−·0001	−·0003	+ 4·7	− 0·2	−·0003
47	132·0	45·0		23·0		−·0001	−·0003	+ 4·5	− 0·2	−·0003
52	132·0	45·0		23·0		−·0001	−·0003	+ 4·6	− 0·2	−·0003
57	131·8	46·0		22·5		·0000	−·0003	+ 4·6	− 0·2	−·0003
17 02	131·0	43·4	59·0	22·5	60·0	−·0002	−·0003	+ 4·1	− 0·1	−·0003

1844. Van Diemen Island.

May 22.

For Mean Monthly Readings, *see* page 348.

VAN DIEMEN ISLAND, 1844. MAY 22—23.

22 00 02	75·3	102·0	55·6	88·9	54·5	+·0001	+·0002	+ 0·5	+ 0·1	+·0002
01 02	59·4	99·0	55·6	80·5	54·5	−·0006	−·0001	−10·2	+ 0·5	−·0002
07	57·0	100·5		78·1		−·0002	−·0002	−11·9	0·0	−·0002
12	57·6	101·5		77·3		·0000	−·0002	−11·5	− 0·2	−·0002
17	58·2	100·1		76·5		−·0003	−·0003	−11·1	0·0	−·0003
22	59·3	99·0		80·2		−·0006	−·0001	−10·3	+ 0·5	−·0002
27	61·3	98·3		84·3		−·0007	·0000	− 8·9	+ 0·8	−·0001
32	63·3	98·1		87·6		−·0008	+·0001	− 7·5	+ 1·0	·0000
37	66·0	98·8		90·0		−·0006	+·0002	− 5·5	+ 0·9	+·0001
42	67·8	99·7		90·0		−·0004	+·0002	− 4·3	+ 0·7	+·0001
47	68·6	99·5		90·0		−·0005	+·0002	− 3·7	+ 0·8	+·0001
52	70·2	98·8		91·0		−·0007	+·0002	− 2·6	+ 1·0	+·0001
57	71·0	90·0		90·5		−·0006	+·0002	− 2·0	+ 0·9	+·0001
02 02	69·6	99·4	55·6	88·8	54·5	−·0005	+·0002	− 3·0	+ 0·8	+·0001
07	68·9	99·4		88·4		−·0005	+·0002	− 3·5	+ 0·8	+·0001
12	68·4	99·6		87·4		−·0005	+·0001	− 3·8	+ 0·7	·0000
17	68·1	99·2		87·2		−·0006	+·0001	− 4·1	+ 0·8	·0000
22	68·5	99·4		88·3		−·0005	+·0002	− 3·8	+ 0·8	+·0001
27	70·1	99·9		89·4		−·0004	+·0002	− 2·7	+ 0·7	+·0001
32	71·0	100·2		89·0		−·0003	+·0002	− 2·1	+ 0·5	+·0001
37	70·8	99·9		87·5		−·0004	+·0001	− 2·2	+ 0·5	·0000
42	70·3	99·7		88·2		−·0004	+·0001	− 2·6	+ 0·5	·0000
47	70·8	100·2		88·2		−·0003	+·0001	− 2·2	+ 0·4	+·0001
52	71·1	—		—		—	—	− 2·1	—	—
03 02	71·0	100·2	55·7	88·2	54·6	−·0003	+·0001	− 2·1	+ 0·4	+·0001
04 02	72·6	99·5	55·7	91·2	54·5	−·0006	+·0002	− 1·6	+ 0·9	+·0001
05 02	74·2	100·9	55·5	87·4	54·2	−·0002	+·0001	− 1·0	+ 0·3	+·0001
06 02	76·8	103·2	55·2	85·4	54·0	+·0002	·0000	0·0	− 0·2	·0000
07 02	76·7	105·5	55·2	83·3	54·0	+·0007	−·0001	+ 0·4	− 0·9	·0000
08 02	77·6	104·2	55·0	85·1	54·0	+·0003	·0000	+ 0·7	− 0·3	·0000
09 02	78·6	108·2	55·0	83·4	53·6	+·0011	−·0001	+ 1·9	− 1·3	·0000
10 02	77·7	108·5	54·2	74·5	53·2	+·0012	−·0004	+ 1·3	− 1·7	−·0002
07	77·1	107·7		77·8		+·0010	−·0003	+ 0·9	− 1·4	−·0002
12	77·5	106·6		79·9		+·0008	−·0002	+ 1·2	− 1·1	−·0001
17	77·1	105·7		79·3		+·0006	−·0002	+ 0·9	− 0·9	−·0001
22	77·1	—		—		—	—	+ 0·9	—	—
11 02	76·3	103·9	54·4	86·4	53·2	+·0001	·0000	+ 0·5	− 0·1	·0000
12 02	76·9	102·4	54·4	88·3	53·2	·0000	+·0001	+ 1·3	+ 0·1	+·0001
13 02	83·1	88·8	54·4	122·0	53·1	−·0029	+·0012	+ 5·8	+ 4·4	+·0007
07	84·6	89·3		125·7		−·0028	+·0013	+ 6·9	+ 4·4	+·0008
12	89·2	92·4		127·7		−·0020	+·0014	+10·2	+ 3·7	+·0010
17	91·9	93·4		123·2		−·0018	+·0012	+12·1	+ 3·2	+·0009
22	92·4	92·8		120·9		−·0019	+·0012	+12·4	+ 3·3	+·0009
27	91·5	92·6		119·2		−·0019	+·0011	+11·8	+ 3·2	+·0008
32	95·0	93·2		111·2		−·0018	+·0009	+10·7	+ 2·9	+·0006

1844.
Van Diemen Island.

May 22—23.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
						$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
22 13 37	88·2	95·2		110·6		−·0013	+·0008	+ 9·4	+ 2·3	+·0006
42	87·1	94·2		106·6		−·0015	+·0007	+ 8·6	+ 2·4	+·0005
47	86·4	96·7		100·7		−·0009	+·0005	+ 8·1	+ 1·5	+·0004
52	84·5	97·9		96·8		−·0006	+·0004	+ 6·8	+ 1·1	+·0003
57	83·9	97·9		92·7		−·0006	+·0002	+ 6·3	+ 0·9	+·0001
14 02	82·7	99·2	54·7	90·5	53·3	−·0003	+·0001	+ 5·5	+ 0·4	+·0001
07	81·5	99·4		87·9		−·0003	+·0001	+ 4·5	+ 0·4	+·0001
12	80·5	99·3		85·8		−·0003	·0000	+ 3·7	+ 0·3	·0000
17	79·5	98·8		84·8		−·0003	−·0001	+ 2·8	+ 0·2	−·0001
22	78·6	99·5		83·3		−·0001	−·0001	+ 2·1	0·0	−·0001
27	79·1	99·2		84·5		−·0002	−·0001	+ 2·3	+ 0·1	−·0001
32	77·7	99·5		84·3		−·0001	−·0001	+ 1·3	0·0	−·0001
37	78·0	—		—		—	—	+ 1·4	—	—
15 02	78·1	99·6	55·2	86·3	53·7	+·0001	·0000	+ 0·9	− 0·1	·0000
16 02	80·0	100·5	55·3	88·2	53·8	+·0003	·0000	+ 0·9	− 0·3	·0000
17 02	79·8	90·0	55·5	110·7	54·0	−·0021	+·0008	+ 0·4	+ 3·1	+·0005
18 02	76·5	94·3	55·8	94·8	54·2	−·0013	+·0002	− 1·9	+ 1·6	·0000
19 02	75·9	98·2	55·8	85·4	54·5	−·0006	−·0001	− 1·8	+ 0·8	·0000
20 02	72·0	102·0	56·0	72·8	54·6	+·0001	−·0004	− 3·7	− 0·5	−·0003
21 02	74·6	98·1	56·0	88·9	54·8	−·0008	+·0002	− 1·6	+ 1·1	+·0001
22 02	72·8	99·1	55·8	84·0	55·0	−·0006	+·0001	− 2·1	+ 0·8	·0000
23 02	75·0	106·4	55·8	67·7	55·0	+·0011	−·0005	− 0·1	− 1·7	−·0003
23 00 02	71·5	103·9	55·7	79·4	54·7	+·0006	−·0001	− 2·2	− 0·8	·0000
01 02	72·1	99·9	55·6	89·8	54·6	−·0003	+·0002	− 1·2	+ 0·5	+·0001
02 02	72·1	99·3	55·4	91·8	54·4	−·0006	+·0003	− 1·2	+ 1·0	+·0002

1844.
Toronto.

May 22.

For Mean Monthly Readings, *see* page 349.

TORONTO, 1844. MAY 22—23.

22 12 02	118·0	64·7	59·6	42·2	59·2	+·0010	+·0007	− 3·5	− 0·2	+·0007
13 02	136·3	34·6	59·2	59·2	58·8	−·0013	+·0017	+ 8·5	+ 2·5	+·0015
07	138·1	33·8		57·4		−·0014	+·0016	+ 9·9	+ 2·5	+·0014
12	136·8	21·3		58·7		−·0025	+·0017	+ 9·1	+ 3·6	+·0014
17	130·2	21·0		58·9		−·0025	+·0017	+ 4·3	+ 3·6	+·0014
22	127·3	21·1		59·5		−·0025	+·0017	+ 2·4	+ 3·6	+·0014
27	123·0	18·5		58·3		−·0027	+·0016	− 0·6	+ 3·6	+·0013
32	121·2	17·4		58·8		−·0028	+·0017	− 1·8	+ 3·8	+·0014
37	123·6	19·9		57·2		−·0026	+·0016	− 0·1	+ 3·6	+·0013
42	125·2	14·6		56·1		−·0030	+·0015	+ 1·1	+ 3·8	+·0012
47	126·6	14·5		54·0		−·0030	+·0014	+ 2·3	+ 3·7	+·0011
52	125·5	17·8		53·0		−·0027	+·0013	+ 1·5	+ 3·4	+·0010
57	125·1	14·8		50·6		−·0030	+·0012	+ 1·3	+ 3·6	+·0009
14 02	124·3	18·0	59·2	49·4	59·1	−·0027	+·0011	+ 0·8	+ 3·2	+·0009
07	124·0	22·3		47·7		−·0023	+·0010	+ 0·5	+ 2·8	+·0008
12	124·2	23·2		47·0		−·0022	+·0010	+ 0·6	+ 2·7	+·0008
17	123·2	26·1		44·9		−·0020	+·0009	− 0·3	+ 2·4	+·0007
52	139·0	35·4		37·0		−·0011	+·0004	+10·4	+ 1·3	+·0003
57	137·2	36·5		35·7		−·0010	+·0004	+ 9·0	+ 1·2	+·0003
15 02	135·2	35·4	58·8	34·7	59·3	−·0011	+·0003	+ 7·4	+ 1·2	+·0002
07	133·6	37·5		34·0		−·0009	+·0003	+ 6·2	+ 1·0	+·0002
12	133·6	39·6		32·7		−·0008	+·0002	+ 6·0	+ 0·9	+·0001
17	132·3	36·8		32·7		−·0010	+·0002	+ 4·9	+ 1·0	+·0001
22	131·9	37·0		32·7		−·0010	+·0002	+ 4·5	+ 1·0	+·0001
27	131·7	37·2		33·0		−·0010	+·0003	+ 4·2	+ 1·1	+·0002
32	130·6	36·9		33·9		−·0010	+·0003	+ 3·3	+ 1·1	+·0002
37	130·6	37·0		34·2		−·0010	+·0003	+ 3·3	+ 1·1	+·0002
42	129·1	35·7		34·4		−·0012	+·0004	+ 2·0	+ 1·4	+·0003
47	127·3	35·2		35·4		−·0012	+·0004	+ 0·6	+ 1·4	+·0003
52	126·0	35·0		35·4		−·0013	+·0004	− 0·5	+ 1·4	+·0003
57	126·4	35·9		35·2		−·0012	+·0004	− 0·3	+ 1·4	+·0003

1844.
Toronto.

May 22.

OBSERVATIONS OF THE MAGNETOMETERS. The Declination was observed 2m. before, and the V. F. 1m. after the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
22 16 02	126·4	37·9	58·5	35·6	59·3	−·0010	+·0005	− 0·4	+ 1·3	+·0004
32	140·2	55·7		9·4		+·0006	−·0012	+10·1	− 1·5	−·0011
37	129·1	42·6		10·2		−·0006	−·0011	+ 2·3	− 0·4	−·0011
42	135·6	32·9		8·8		−·0014	−·0012	+ 7·0	+ 0·2	−·0012
47	140·8	41·5		6·7		−·0007	−·0013	+10·9	− 0·5	−·0013
52	137·6	39·5		5·4		−·0009	−·0014	+ 8·7	− 0·4	−·0014
57	138·4	39·8		4·0		−·0008	−·0015	+ 9·4	− 0·6	−·0015
17 02	136·8	34·6	57·9	9·8	59·3	−·0013	−·0011	+ 8·3	+ 0·2	−·0011
07	147·1	49·5		11·9		·0000	−·0010	+15·6	− 0·9	−·0009
12	142·2	51·4		10·2		+·0002	−·0011	+12·1	− 1·1	−·0010
17	136·1	53·7		15·3		+·0004	−·0008	+ 7·6	− 1·0	−·0007
22	138·1	53·1		14·6		+·0004	−·0008	+ 9·1	− 1·0	−·0007
27	136·9	52·9		11·9		+·0004	−·0010	+ 8·1	− 1·2	−·0009
32	132·2	43·2		12·5		−·0005	−·0010	+ 4·7	− 0·4	−·0010
37	134·2	29·5		14·3		−·0016	−·0008	+ 6·2	+ 0·7	−·0008
42	141·2	33·8		13·3		−·0013	−·0009	+11·1	+ 0·3	−·0009
47	140·9	38·0		12·3		−·0009	−·0010	+10·9	− 0·1	−·0010
52	138·0	33·5		13·4		−·0013	−·0009	+ 8·8	+ 0·3	−·0009
57	137·9	31·1		13·4		−·0014	−·0009	+ 8·7	+ 0·4	−·0009
18 02	138·0	28·0	57·7	13·0	59·1	−·0017	−·0009	+ 8·7	+ 0·7	−·0009
07	136·2	16·5		12·3		−·0027	−·0010	+ 7·3	+ 1·4	−·0011
12	137·3	5·1		13·0		−·0037	−·0009	+ 8·0	+ 2·4	−·0011
17	146·9	1·8		13·0		−·0040	−·0009	+15·0	+ 2·6	−·0011
22	153·9	9·9		14·1		−·0033	−·0009	+19·9	+ 2·0	−·0011
27	153·7	19·0		15·3		−·0025	−·0008	+19·8	+ 1·4	−·0009
32	146·8	25·8		16·4		−·0019	−·0007	+14·8	+ 1·0	−·0008
37	135·4	25·4		17·6		−·0019	−·0006	+ 6·6	+ 1·1	−·0007
42	130·2	19·3		18·1		−·0025	−·0006	+ 2·8	+ 1·6	−·0007
47	127·5	16·3		19·2		−·0027	−·0005	+ 0·8	+ 1·9	−·0006
52	130·0	22·9		20·1		−·0022	−·0005	+ 2·6	+ 1·4	−·0006
57	131·7	25·5		21·3		−·0019	−·0004	+ 3·7	+ 1·3	−·0005
19 02	133·0	28·5	57·2	21·7	58·7	−·0017	−·0004	+ 4·7	+ 1·1	−·0005
07	135·1	31·5		22·4		−·0014	−·0003	+ 6·3	+ 0·9	−·0004
12	136·0	32·3		22·8		−·0014	−·0003	+ 7·0	+ 0·9	−·0004
17	131·2	32·0		21·9		−·0014	−·0004	+ 3·6	+ 0·9	−·0005
22	127·8	31·8		20·4		−·0014	−·0005	+ 1·3	+ 0·8	−·0006
27	121·7	39·1		16·8		−·0008	−·0007	− 3·0	+ 0·1	−·0007
32	118·2	39·0		15·9		−·0008	−·0008	− 5·4	0·0	−·0008
37	119·2	30·0		14·0		−·0016	−·0009	− 4·7	+ 0·6	−·0009
42	120·0	21·0		13·2		−·0024	−·0010	− 4·0	+ 1·2	−·0011
47	121·4	25·1		14·0		−·0021	−·0009	− 3·0	+ 1·0	−·0010
52	121·0	26·3		15·2		−·0020	−·0008	− 3·1	+ 1·0	−·0009
57	121·0	28·1		15·7		−·0019	−·0008	− 3·0	+ 0·9	−·0009
20 02	121·8	30·2	57·0	17·9	58·3	−·0017	−·0007	− 2·4	+ 0·9	−·0008
21 02	124·6	35·3	56·6	24·8	57·0	−·0013	−·0004	− 0·5	+ 0·8	−·0005
22 02	127·0	39·5	56·0	32·3	56·3	−·0012	·0000	+ 0·9	+ 1·0	−·0001
23 02	124·1	38·5	55·5	32·5	56·0	−·0013	−·0001	− 3·0	+ 1·0	−·0002

1844.
Cape of Good Hope.

May 22.

For Mean Monthly Readings, *see* page 348.

CAPE OF GOOD HOPE, 1843. MAY 22.										
22 14 02	50·4	47·3	62·9	19·9	63·1	+·0001	·0000	− 1·7	+ 0·2	·0000
15 02	53·9	45·3	62·7	18·9	62·9	−·0007	−·0002	+ 0·6	+ 0·8	−·0004
16 02	52·4	46·0	62·7	19·8	62·8	−·0005	−·0001	− 0·6	+ 0·7	−·0002
17 02	59·2	47·0	62·7	15·3	62·8	−·0001	−·0008	+ 4·3	− 1·2	−·0006
17	59·0	47·5		15·3		·0000	−·0008	+ 4·1	− 1·3	−·0005
32	59·3	47·9		15·2		+·0001	−·0008	+ 4·4	− 1 5	−·0005
47	58·0	48·1		15·6		+·0001	−·0007	+ 3·3	− 1·3	−·0004
18 02	57·0	49·1	62·9	15·7	63·0	+·0005	−·0006	+ 2·6	− 1·8	−·0002
17	56·2	49·8		15·7		+·0007	−·0006	+ 2·0	− 2·1	−·0001
32	56·0	49·2		16·1		+·0004	−·0006	+ 1·7	− 1·7	−·0002

1844.
Cape of Good Hope.
May 22.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours. $\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
22 18 47	55·1	48·2		18·5		·0000	−·0002	+ 1·1	− 0·3	−·0001
19 02	54·1	48·1	62·7	18·7	62·9	−·0001	−·0002	+ 0·3	− 0·2	−·0002
17	53·8	48·2		19·3		−·0001	−·0001	+ 0·5	0·0	−·0001
32	53·8	47·1		19·6		−·0005	−·0002	+ 0·8	+ 0·5	−·0003
47	53·3	46·9		20·6		−·0006	−·0001	+ 0·8	+ 0·8	−·0003
20 02	53·1	47·0	62·7	20·6	62·9	−·0006	−·0001	− 0·9	+ 0·8	−·0003
17	53·9	47·8		19·7		−·0003	−·0003	− 1·9	0·0	−·0003
32	53·8	48·1		19·5		−·0002	−·0004	+ 2·2	− 0·3	−·0003
47	52·8	48·1		19·8		−·0002	−·0003	+ 1·7	− 0·2	−·0003
21 02	52·1	48·5	62·7	20·1	62·9	−·0001	−·0003	+ 1·6	− 0·3	−·0002
17	51·9	48·7		19·9		·0000	−·0003	+ 1·6	− 0·5	−·0002
32	50·9	48·9		19·9		+·0001	−·0003	+ 1·0	− 0·7	−·0002
47	50·1	48·9		19·9		+·0001	−·0003	+ 0·5	− 0·7	−·0002
22 02	50·0	48·1	62·7	19·7	63·1	−·0001	−·0003	+ 0·5	− 0·3	−·0002

1844.
St. Helena.
May 22.

ST. HELENA, 1844. MAY 22—23.

MEAN MONTHLY READINGS OF THE MAGNETOMETERS.

Mean Göttingen Time.	Declination.	H. F. at 68°·0.	V. F. at 67°·7.	Mean Göttingen Time.	Declination.	H. F. at 68°·0.	V. F. at 67°·7.
Hours.	Sc. Div.	Sc. Div.	Sc. Div.	Hours.	Sc. Div.	Sc. Div.	Sc. Div.
00	199·1	65·2	13·7	12	198·7	57·6	13·1
01	199·3	65·2	13·9	13	198·9	57·9	13·0
02	198·5	64·4	14·2	14	199·0	57·7	12·9
03	198·3	63·3	14·3	15	199·1	58·1	12·8
04	198·3	62·0	14·3	16	199·2	58·5	12·5
05	198·1	61·2	14·3	17	199·4	58·7	12·5
06	197·6	60·5	14·3	18	199·7	58·9	12·4
07	197·6	59·6	14·2	19	200·2	59·3	13·0
08	198·0	59·2	14·0	20	201·0	59·4	12·9
09	198·2	58·4	13·8	21	199·7	60·6	12·8
10	198·4	58·3	13·5	22	198·4	62·6	13·0
11	198·5	58·1	13·4	23	198·1	64·1	13·3

Coefficients (A),
Approximate Absolute Values (B.)

(A)
- Declin. $a = 0'·712$
- H. F. $k = ·00021$, $q = ·00028$
- V. F. $k = ·00081$, $q = ·00002$

(B) Approx.
- $\psi = 23° 18'$
- $X = 5·57$
- $Y = 2·23$
- $\theta = -21° 49'$
- $\phi = 6·00$

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours. $\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
22 19 02	199·6	66·6	64·9	13·1	65·0	+·0007	+·0001	− 0·4	− 0·7	+·0006
20 02	201·8	60·7	64·9	13·6	64·9	−·0006	+·0006	+ 0·6	+ 1·4	−·0004
12	202·0	61·6		13·5		−·0004	+·0005	+ 0·8	+ 1·0	−·0003
17	202·0	61·9		12·2		−·0004	−·0006	+ 0·9	− 0·2	−·0004
22	201·9	62·1		13·0		−·0004	+·0001	+ 0·9	+ 0·6	−·0003
27	202·1	62·2		12·8		−·0004	−·0001	+ 1·1	+ 0·3	−·0004
32	202·0	62·2		12·7		−·0004	−·0002	+ 1·1	+ 0·2	−·0004
37	201·8	62·2		12·1		−·0004	−·0006	+ 1·1	− 0·2	−·0004
42	201·6	62·2		11·9		−·0004	−·0007	+ 1·1	− 0·3	−·0004
47	201·6	62·3		11·9		−·0004	−·0007	+ 1·1	− 0·3	−·0004
52	201·4	62·4		11·9		−·0004	−·0007	+ 1·1	− 0·3	−·0004
57	201·4	62·5		11·1		−·0004	−·0014	+ 1·1	− 1·2	−·0005

1844.
St. Helena.

May 22—23.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
22 21 02	201·3	62·7	65·0	11·5	66·0	−·0004	−·0011	+ 1·1	− 0·8	−·0005
07	201·3	62·8		11·5		−·0004	−·0011	+ 1·2	− 0·8	−·0005
12	201·1	62·9		11·7		−·0004	−·0009	+ 1·1	− 0·6	−·0005
17	200·9	62·9		11·7		−·0005	−·0009	+ 1·1	− 0·5	−·0006
22	200·8	63·0		11·8		−·0005	−·0009	+ 1·1	− 0·5	−·0006
27	200·4	63·4		11·9		−·0004	−·0008	+ 0·8	− 0·5	−·0005
32	200·2	63·6		11·9		−·0004	−·0008	+ 0·8	− 0·5	−·0005
37	199·9	63·7		11·9		−·0004	−·0008	+ 0·7	− 0·5	−·0005
42	199·7	63·9		12·3		−·0004	−·0005	+ 0·6	− 0·1	−·0004
47	199·7	63·9		12·4		−·0004	−·0004	+ 0·7	0·0	−·0004
52	199·4	63·9		12·9		−·0005	−·0001	+ 0·6	+ 0·5	−·0004
57	199·4	64·0		13·1		−·0005	+·0001	+ 0·6	+ 0·7	−·0004
22 02	199·3	64·1	65·2	13·3	65·7	−·0005	+·0002	+ 0·6	+ 0·8	−·0004
07	199·1	64·2		13·5		−·0005	+·0004	+ 0·5	+ 1·0	−·0004
12	199·0	64·2		13·4		−·0005	+·0002	+ 0·5	+ 0·8	−·0004
17	198·9	64·3		13·7		−·0005	+·0005	+ 0·4	+ 1·2	−·0004
22	198·7	64·3		13·7		−·0005	+·0005	+ 0·3	+ 1·2	−·0004
27	198·5	64·0		13·7		−·0006	+·0005	+ 0·1	+ 1·3	−·0005
32	198·3	64·0		13·7		−·0006	+·0004	+ 0·1	+ 1·2	−·0005
37	198·1	63·7		13·7		−·0007	+·0004	− 0·1	+ 1·3	−·0006
42	198·1	63·7		13·7		−·0007	+·0004	− 0·1	+ 1·3	−·0006
47	198·0	63·1		13·7		−·0008	+·0004	− 0·1	+ 1·4	−·0006
52	197·2	62·9		13·7		−·0009	+·0003	− 0·6	+ 1·4	−·0007
57	197·0	62·6		13·7		−·0010	+·0003	− 0·8	+ 1·5	−·0008
23 02	197·0	63·0	65·7	13·7	65·6	−·0009	+·0003	− 0·8	+ 1·4	−·0007
07	197·3	63·8		14·0		−·0007	+·0006	− 0·6	+ 1·5	−·0005
12	197·8	64·0		14·0		−·0007	+·0005	− 0·4	+ 1·4	−·0005
17	197·7	64·0		14·0		−·0007	+·0005	− 0·4	+ 1·4	−·0005
22	197·5	64·0		14·0		−·0007	+·0005	− 0·6	+ 1·4	−·0005
27	197·2	64·0		13·9		−·0008	+·0003	− 0·9	+ 1·3	−·0007
32	197·2	64·3		13·9		−·0007	+·0003	− 1·0	+ 1·2	−·0006
37	197·2	64·5		13·9		−·0007	+·0003	− 1·1	+ 1·2	−·0006
42	197·2	64·7		13·9		−·0006	+·0002	− 1·1	+ 0·9	−·0005
47	197·0	64·9		13·9		−·0006	+·0002	− 1·3	+ 0·9	−·0005
52	197·1	64·9		14·0		−·0006	+·0003	− 1·3	+ 1·0	−·0005
57	197·1	65·1		14·0		−·0006	+·0002	− 1·3	+ 0·9	−·0005
23 00 02	197·1	65·3	65·9	14·0	65·8	−·0006	+·0002	− 1·4	+ 0·9	−·0005

1844.
Van Diemen Island.

July.

VAN DIEMEN ISLAND, 1844. JULY 7, 24, and 25.

MEAN MONTHLY READINGS OF THE MAGNETOMETERS.

Mean Göttingen Time.	Declination.	H. F. at 47°·0.	V. F. at 46°·5.	Mean Göttingen Time.	Declination.	H. F. at 47°·0.	V. F. at 46°·5.
Hours.	Sc. Div.	Sc. Div.	Sc. Div.	Hours.	Sc. Div.	Sc. Div.	Sc. Div.
00	74·2	109·8	120·6	12	74·0	111·9	110·5
01	74·2	110·0	120·0	13	73·2	110·6	112·9
02	74·3	110·3	119·4	14	73·9	109·3	115·3
03	73·8	110·6	117·9	15	75·7	108·0	117·6
04	74·6	110·5	118·6	16	77·7	107·9	119·9
05	75·2	110·7	117·7	17	78·9	108·8	120·7
06	75·6	110·4	117·3	18	79·4	110·0	120·7
07	76·0	110·5	117·1	19	78·6	110·0	120·6
08	76·3	110·9	115·6	20	77·2	111·1	119·0
09	75·9	111·3	114·0	21	76·6	110·8	119·5
10	75·7	111·6	113·0	22	76·5	110·1	120·4
11	75·2	113·0	110·9	23	75·0	110·1	119·8

Coefficients (A), Approximate Absolute Values (B.)

(A)
- Declin. $a = 0'·71$
- H. F. $k = ·000229$, $q = ·000230$
- V. F. $k = ·000036$, $q = ·00021$

(B) Approx.
- $\psi = -9° 55'$
- $X = 4·51$
- $Y = 12·86$
- $\theta = -70° 37'$
- $\phi = 13·62$

1844., Van Diemen Island.

July 7 and 24.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
						$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
7 13 02	73·3	109·9	47·5	119·2	47·2	−·0001	+·0004	+ 0·1	+ 0·5	+·0003
14 02	74·5	109·6	47·8	118·3	47·5	+·0003	+·0003	+ 0·4	0·0	+·0003
15 02	76·1	108·4	48·0	117·0	47·7	+·0003	+·0002	+ 0·3	− 0·1	+·0002
16 02	76·7	108·3	48·0	115·7	48·0	+·0003	+·0002	− 0·7	− 0·1	+·0002
17 02	78·9	110·1	48·2	114·7	48·0	+·0006	+·0001	0·0	− 0·5	+·0002
18 02	80·1	111·7	48·2	114·6	48·0	+·0007	+·0001	+ 0·5	− 0·7	+·0002
19 02	78·7	109·5	48·0	119·3	48·0	−·0001	+·0003	+ 0·1	+ 0·4	+·0003
20 02	79·1	110·2	48·0	115·2	48·0	·0000	+·0002	+ 1·3	+ 0·2	+·0002
21 02	78·9	108·2	48·0	117·5	47·9	−·0004	+·0002	+ 1·6	+ 0·7	+·0001
22 02	84·0	107·5	48·0	123·2	47·8	−·0004	+·0004	+ 5·4	+ 0·9	+·0003
07	82·9	106·1		123·7		−·0007	+·0004	+ 4·7	+ 1·2	+·0003
12	81·8	105·8		124·4		−·0008	+·0004	+ 4·0	+ 1·3	+·0003
17	81·7	106·0		125·2		−·0007	+·0004	+ 4·0	+ 1·2	+·0003
22	81·7	105·2		125·0		−·0009	+·0004	+ 4·1	+ 1·4	+·0003
27	80·3	104·2		125·0		−·0011	+·0004	+ 3·1	+ 1·6	+·0002
32	79·2	103·9		125·7		−·0012	+·0005	+ 2·5	+ 1·8	+·0003
37	77·4	104·1		125·1		−·0012	+·0004	+ 1·3	+ 1·7	+·0002
42	76·9	104·8		125·0		−·0010	+·0004	+ 1·0	+ 1·5	+·0003
47	76·7	104·8		124·2		−·0010	+·0004	+ 0·9	+ 1·5	+·0003
52	75·1	104·0		122·1		−·0012	+·0003	− 0·1	+ 1·6	+·0001
57	72·4	104·0		119·9		−·0012	+·0003	− 1·9	+ 1·6	+·0001
23 02	70·4	105·1	48·0	118·9	47·7	−·0009	+·0002	− 3·2	+ 1·2	+·0001
24 10 02	75·7	105·2	44·0	119·4	43·5	+·0001	−·0004	0·0	− 0·5	−·0003
07	75·6	114·9		119·4		+·0001	−·0004	− 0·1	− 0·5	−·0003
12	76·0	114·4		119·4		−·0001	−·0004	+ 0·3	− 0·3	+·0002
17	75·8	114·5		119·0		−·0001	−·0004	+ 0·1	− 0·3	+·0002
22	75·8	114·8		118·7		−·0001	−·0004	+ 0·2	− 0·3	+·0002
27	75·8	114·8		118·7		−·0001	−·0004	+ 0·2	− 0·3	+·0002
32	75·8	114·9		118·7		−·0001	−·0004	+ 0·2	− 0·3	+·0002
37	75·8	114·8		118·7		−·0001	−·0004	+ 0·3	− 0·3	+·0002
42	75·7	115·0		118·7		−·0001	−·0004	+ 0·2	− 0·3	+·0002
47	75·6	115·1		118·3		−·0001	−·0004	+ 0·2	− 0·3	+·0002
52	75·4	115·4		118·3		−·0001	−·0004	+ 0·1	− 0·3	+·0002
57	75·2	115·5		118·3		−·0001	−·0004	0·0	− 0·3	+·0002
11 02	75·2	115·6	44·2	118·0	43·6	−·0001	−·0004	0·0	− 0·3	+·0002
07	75·1	115·6		118·0		·0000	−·0004	0·0	− 0·4	−·0004
12	75·2	115·7		118·0		·0000	−·0004	+ 0·1	− 0·4	−·0004
17	74·9	115·6		118·2		·0000	−·0003	0·0	− 0·3	−·0003
22	74·6	115·7		118·0		+·0001	−·0004	− 0·1	− 0·5	−·0003
27	74·6	115·7		118·0		+·0001	−·0003	− 0·1	− 0·4	−·0003
32	74·2	115·7		117·8		+·0001	−·0004	− 0·3	− 0·5	−·0003
37	74·1	115·6		118·0		+·0001	−·0003	− 0·3	− 0·4	−·0003
42	73·8	115·5		118·0		+·0001	−·0003	− 0·4	− 0·4	−·0003
47	73·8	115·4		117·8		+·0001	−·0004	− 0·4	− 0·5	−·0003
52	73·5	115·4		117·8		+·0001	−·0004	− 0·5	− 0·5	−·0003
57	73·2	115·4		117·4		+·0001	−·0004	− 0·6	− 0·5	−·0003
12 02	73·0	115·3	44·2	117·4	43·6	+·0001	−·0004	− 0·7	− 0·5	−·0003
07	72·8	115·1		117·0		+·0001	−·0004	− 0·8	− 0·5	−·0003
12	72·6	115·1		116·5		+·0001	−·0004	− 0·9	− 0·5	−·0003
17	72·3	—		—		—	—	− 1·1	—	—
22	72·3	115·0		117·0		+·0002	−·0004	− 1·0	− 0·7	−·0003
27	72·1	114·9		117·0		+·0002	−·0004	− 1·1	− 0·7	−·0003
32	71·9	114·9		117·6		+·0002	−·0004	− 1·2	− 0·7	−·0003
37	71·8	114·8		118·0		+·0002	−·0003	− 1·2	− 0·5	−·0002
42	71·8	114·7		118·3		+·0002	−·0003	− 1·2	− 0·5	−·0002
47	71·7	114·6		118·3		+·0002	−·0003	− 1·2	− 0·5	−·0002
52	71·6	114·4		118·5		+·0002	−·0003	− 1·2	− 0·5	−·0002
57	71·6	114·4		118·5		+·0003	−·0003	− 1·2	− 0·7	−·0002
13 02	71·5	114·1	44·4	118·1	44·0	+·0002	−·0003	− 1·2	− 0·5	−·0002
07	71·7	114·0		118·2		+·0002	−·0003	− 1·1	− 0·5	−·0002

1844.
Van Diemen Island.

July 24.

OBSERVATIONS OF THE MAGNETOMETERS. The Declination was observed 2m. before, and the V. F. 1m. after the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
24 13 12	71·6	113·3		116·4		+·0001	−·0004	− 1·2	− 0·5	−·0003
17	69·9	114·4		117·6		+·0004	−·0004	− 2·5	− 0·9	−·0003
22	71·8	116·1		115·2		+·0006	−·0005	− 1·1	− 1·2	−·0004
27	71·4	114·9		114·4		+·0005	−·0005	− 1·5	− 1·1	−·0004
32	71·7	114·7		115·3		+·0005	−·0005	− 1·3	− 1·1	−·0004
37	71·8	114·6		114·2		+·0006	−·0005	− 1·3	− 1·2	−·0004
42	72·1	114·3		114·4		+·0005	−·0005	− 1·1	− 1·1	−·0004
47	72·0	114·1		114·4		+·0005	−·0005	− 1·2	− 1·1	−·0004
52	72·3	114·1		115·1		+·0005	−·0005	− 1·1	− 1·1	−·0004
57	72·5	113·9		114·3		+·0005	−·0005	− 0·9	− 1·1	−·0004
14 02	72·6	113·7	44·7	115·0	44·2	+·0005	−·0005	− 0·9	− 1·1	−·0004
07	73·0	113·7		114·3		+·0005	−·0005	− 0·8	− 1·1	−·0004
12	73·0	113·8		115·1		+·0006	−·0005	− 0·8	− 1·2	−·0004
17	73·1	113·8		114·4		+·0006	−·0005	− 0·9	− 1·2	−·0004
22	73·6	113·6		114·5		+·0006	−·0005	− 0·6	− 1·2	−·0004
27	74·0	113·9		114·8		+·0007	−·0005	− 0·5	− 1·3	−·0004
32	74·2	113·7		114·5		+·0006	−·0005	− 0·4	− 1·2	−·0004
37	74·6	114·0		114·5		+·0008	−·0005	− 0·3	− 1·4	−·0004
42	75·3	113·2		114·7		+·0006	−·0005	+ 0·1	− 1·2	−·0004
47	75·4	112·6		114·8		+·0005	−·0005	+ 0·1	− 1·1	−·0004
52	75·5	112·4		114·7		+·0005	−·0005	+ 0·1	− 1·1	−·0004
57	75·4	113·0		114·9		+·0006	−·0005	− 0·1	− 1·2	−·0004
15 02	75·7	112·8	44·9	114·8	44·7	+·0006	−·0005	0·0	− 1·2	−·0004
07	76·0	113·0		114·5		+·0007	−·0005	+ 0·1	− 1·3	−·0004
12	76·2	113·1		114·1		+·0007	−·0005	+ 0·1	− 1·3	−·0004
17	76·3	113·1		114·2		+·0007	−·0005	+ 0·1	− 1·3	−·0004
22	77·5	113·9		114·1		+·0009	−·0005	+ 0·8	− 1·5	−·0004
27	78·4	114·1		114·1		+·0009	−·0005	+ 1·3	− 1·5	−·0004
32	78·5	113·9		113·6		+·0009	−·0006	+ 1·3	− 1·6	−·0004
37	78·6	113·7		113·6		+·0009	−·0006	+ 1·2	− 1·6	−·0004
42	79·3	114·0		113·5		+·0010	−·0006	+ 1·6	− 1·7	−·0004
47	78·6	113·9		114·2		+·0009	−·0005	+ 1·0	− 1·5	−·0004
52	79·3	114·1		114·1		+·0010	−·0006	+ 1·3	− 1·7	−·0004
57	79·2	114·2		114·0		+·0010	−·0006	+ 1·2	− 1·7	−·0004
16 02	79·4	114·1	45·2	114·1	44·8	+·0010	−·0006	+ 1·2	− 1·7	−·0004
07	79·9	114·0		113·6		+·0010	−·0006	+ 1·5	− 1·7	−·0004
12	79·6	113·9		114·1		+·0009	−·0006	+ 1·2	− 1·6	−·0004
17	79·1	114·1		114·1		+·0010	−·0005	+ 0·8	− 1·6	−·0003
22	79·5	114·5		113·1		+·0011	−·0006	+ 1·0	− 1·8	−·0004
27	79·9	114·8		113·1		+·0012	−·0006	+ 1·2	− 1·9	−·0004
32	79·6	115·0		113·1		+·0012	−·0006	+ 0·9	− 1·9	−·0004
37	79·9	114·7		113·2		+·0012	−·0005	+ 1·1	− 1·8	−·0003
42	80·0	115·1		112·3		+·0012	−·0006	+ 1·1	− 1·9	−·0004
47	80·0	115·3		113·3		+·0013	−·0005	+ 1·0	− 1·9	−·0003
52	80·1	115·4		114·6		+·0013	−·0005	+ 1·0	− 1·9	−·0003
57	80·1	115·6		111·6		+·0013	−·0006	+ 0·9	− 2·0	−·0004
17 02	79·9	116·2	46·0	112·8	45·4	+·0015	−·0005	+ 0·7	− 2·2	−·0003
07	80·7	115·6		112·8		+·0013	−·0005	+ 1·3	− 1·9	−·0003
12	80·4	115·8		113·9		+·0013	−·0005	+ 1·0	− 1·9	−·0003
17	80·5	115·3		113·9		+·0012	−·0005	+ 1·1	− 1·8	−·0003
22	80·5	115·9		113·5		+·0013	−·0005	+ 1·0	− 1·9	−·0003
27	80·4	116·0		115·6		+·0013	−·0004	+ 0·9	− 1·8	−·0002
32	79·8	112·1		113·3		+·0004	−·0005	+ 0·5	− 1·0	−·0004
37	80·3	114·8		115·8		+·0010	−·0004	+ 0·8	− 1·5	−·0003
42	81·5	118·0		116·0		+·0017	−·0003	+ 1·6	− 2·2	−·0001
47	83·4	119·3		112·6		+·0020	−·0005	+ 2·9	− 2·7	−·0002
52	82·3	114·3		113·6		+·0008	−·0004	+ 2·1	− 1·3	−·0003
57	80·0	112·9		115·5		+·0005	−·0003	+ 0·4	− 0·9	−·0002
18 02	80·0	114·1	46·0	118·9	45·8	+·0007	−·0002	+ 0·4	− 1·0	−·0001
07	80·7	113·1		118·9		+·0005	−·0002	+ 1·0	− 0·8	−·0001
12	80·7	113·2		121·1		+·0005	−·0001	+ 1·0	− 0·7	·0000
17	82·0	114·1		121·1		+·0007	−·0001	+ 2·0	− 0·9	·0000

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July 24.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
						$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
24 18 22	82·8	113·5		121·6		+·0006	−·0001	+ 2·6	− 0·8	·0000
27	82·5	113·6		122·2		+·0006	−·0001	+ 2·4	− 0·8	·0000
32	82·2	114·1		121·5		+·0006	−·0001	+ 2·2	− 0·8	·0000
37	81·8	113·7		121·5		+·0006	−·0001	+ 2·0	− 0·8	·0000
42	81·2	113·8		122·8		+·0006	·0000	+ 1·6	− 0·7	+·0001
47	81·8	114·0		122·5		+·0006	·0000	+ 2·1	− 0·7	+·0001
52	82·0	114·6		121·1		+·0007	−·0001	+ 2·3	− 0·9	·0000
57	82·0	115·4		121·7		+·0009	·0000	+ 2·3	− 1·0	+·0001
19 02	82·5	114·8	46·5	121·7	46·2	+·0008	·0000	+ 2·7	− 0·9	+·0001
07	82·9	114·7		121·1		+·0007	·0000	+ 3·1	− 0·8	+·0001
12	82·5	113·6		121·9		+·0005	·0000	+ 2·9	− 0·5	+·0001
17	82·1	114·0		121·9		+·0006	·0000	+ 2·7	− 0·7	+·0001
22	81·6	113·5		123·0		+·0005	+·0001	+ 2·5	− 0·4	+·0001
27	81·6	113·5		123·0		+·0005	+·0001	+ 2·5	− 0·4	+·0001
32	81·0	112·8		123·8		+·0003	+·0001	+ 2·2	− 0·2	+·0001
37	81·7	112·0		124·6		+·0001	+·0001	+ 2·7	0·0	+·0001
42	82·5	111·5		126·6		·0000	+·0002	+ 3·4	+ 0·2	+·0002
47	83 1	110·2		129·1		−·0003	+·0003	+ 4·0	+ 0·7	+·0002
52	83·4	109·3		130·0		−·0005	+·0003	+ 4·3	+ 0·9	+·0002
57	82·7	108·5		130·0		−·0007	+·0004	+ 3·9	+ 1·2	+·0003
20 02	81·2	108·3	46·7	130·3	46·3	−·0007	+·0004	+ 2·8	+ 1·2	+·0003
07	80·6	108·5		130·9		−·0007	+·0004	+ 2·5	+ 1·2	+·0003
12	79·9	107·3		130·1		−·0009	+·0004	+ 2·0	+ 1·4	+·0003
17	78·2	108·8		130·3		−·0006	+·0004	+ 0·8	+ 1·1	+·0003
22	79·9	110·6		128·7		−·0001	+·0003	+ 2·0	+ 0·4	+·0003
27	81·4	109·6		128·6		−·0004	+·0003	+ 3·2	+ 0·8	+·0002
32	82·6	108·2		129·3		−·0007	+·0003	+ 4·1	+ 1·1	+·0002
37	82·9	106·7		131·2		−·0010	+·0004	+ 4·4	+ 1·5	+·0003
42	81·4	104·5		130·9		−·0015	+·0004	+ 3·2	+ 2·0	+·0002
47	78·9	105·5		132·0		−·0013	+·0004	+ 1·5	+ 1·8	+·0002
52	79·2	107·8		131·0		−·0007	+·0004	+ 1·8	+ 1·2	+·0003
57	80·1	108·6		131·5		−·0005	+·0004	+ 2·5	+ 1·0	+·0003
21 02	82·4	109·3	46·9	130·0	46·4	−·0004	+·0004	+ 4·2	+ 0·9	+·0003
07	84·0	109·1		130·3		−·0004	+·0004	+ 5·3	+ 0·9	+·0003
12	84·3	108·9		128·4		−·0004	+·0003	+ 5·5	+ 0·8	+·0002
17	85·0	108·5		128·6		−·0005	+·0003	+ 6·0	+ 0·9	+·0002
22	84·9	108·3		128·6		−·0005	+·0003	+ 5·9	+ 0·9	+·0002
27	85·2	108·6		129·1		−·0004	+·0003	+ 6·1	+ 0·8	+·0002
32	85·9	108·0		130·7		−·0006	+·0004	+ 6·6	+ 1·1	+·0003
37	87·9	107·7		129·5		−·0006	+·0004	+ 8·1	+ 1·1	+·0003
42	86·3	107·3		129·1		−·0007	+·0003	+ 7·0	+ 1·1	+·0002
47	84·0	107·1		128·7		−·0007	+·0003	+ 5·4	+ 1·1	+·0002
52	83·7	106·4		129·5		−·0008	+·0004	+ 5·1	+ 1·3	+·0003
57	83·2	104·9		132·0		−·0012	+·0005	+ 4·8	+ 1·8	+·0003
22 02	84·1	102·4	47·2	135·5	46·7	−·0017	+·0006	+ 5·4	+ 2·5	+·0003
07	83·7	103·3		136·0		−·0015	+·0006	+ 5·2	+ 2·3	+·0004
12	82·8	104·0		136·4		−·0014	+·0006	+ 4·7	+ 2·2	+·0004
17	83·0	105·2		133·8		−·0011	+·0006	+ 4·9	+ 1·8	+·0004
22	82·0	105·8		132·3		−·0010	+·0005	+ 4·3	+ 1·6	+·0003
27	81·1	106·4		128·9		−·0008	+·0004	+ 3·7	+ 1·3	+·0003
32	79·4	106·8		127·0		−·0007	+·0003	+ 2·6	+ 1·1	+·0002
37	78·6	107·6		123·6		−·0006	+·0002	+ 2·1	+ 0·9	+·0001
42	77·3	107·3		121·1		−·0006	+·0001	+ 1·3	+ 0·8	·0000
47	77·3	107·7		121·3		−·0005	+·0001	+ 1·3	+ 0·7	·0000
52	78·3	107·0		122·9		−·0007	+·0002	+ 2·2	+ 1·0	+·0001
57	78·8	107·0		124·5		−·0007	+·0003	+ 2·6	+ 1·1	+·0002
23 02	79·6	106·1	47·0	125·1	47·0	−·0009	+·0003	+ 3·2	+ 1·3	+·0002
07	80·0	105·6		125·7		−·0010	+·0003	+ 3·7	+ 1·4	+·0002
12	79·0	104·5		126·2		−·0013	+·0003	+ 2·9	+ 1·7	+·0001
17	77·6	103·4		129·0		−·0015	+·0004	+ 2·0	+ 2·0	+·0002
22	76·9	103·4		130·4		−·0015	+·0005	+ 1·5	+ 2·2	+·0003
27	76·9	103·0		132·8		−·0016	+·0006	+ 1·5	+ 2·4	+·0004

1844.
Van Diemen Island,

July 24—25.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
						$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta \psi$	$\Delta \theta$	$\frac{\Delta \phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
24 23 32	76·1	101·7		133·9		−·0019	+·0006	+ 1·1	+ 2·7	+·0003
37	75·9	101·6		133·6		−·0019	+·0006	+ 1·0	+ 2·7	+·0003
42	75·4	101·2		134·5		−·0020	+·0006	+ 0·6	+ 2·8	+·0003
47	72·3	101·8		134·4		−·0018	+·0006	− 1·5	+ 2·6	+·0003
52	72·2	102·6		133·8		−·0016	+·0006	− 1·5	+ 2·4	+·0004
57	71·5	105·7		131·0		−·0009	+·0005	− 2·0	+ 1·5	+·0004
25 00 02	72·4	106·5	47·2	126·3	47·0	−·0007	+·0003	− 1·3	+ 1·1	+·0002
07	71·8	105·6		123·8		−·0009	+·0002	− 1·7	+ 1·2	+·0001
12	72·5	104·8		125·4		−·0011	+·0003	− 1·2	+ 1·5	+·0002
17	73·2	104·2		126·0		−·0012	+·0003	− 0·7	+ 1·6	+·0001
22	72·4	103·6		125·6		−·0014	+·0003	− 1·3	+ 1·8	+·0001
27	69·0	104·0		123·9		−·0012	+·0003	− 3·7	+ 1·6	+·0001
32	65·4	103·1		120·6		−·0015	+·0001	− 6·3	+ 1·7	−·0001
37	60·5	106·2		118·8		−·0007	+·0001	− 9·7	+ 0·9	·0000
42	61·0	106·5		117·5		−·0006	·0000	− 9·3	+ 0·7	−·0001
47	62·5	106·0		117·5		−·0007	+·0001	− 8·3	+ 0·9	·0000
52	63·2	106·4		117·5		−·0007	+·0001	− 7·8	+ 0·9	·0000
57	64·0	106·8		117·3		−·0006	+·0001	− 7·2	+ 0·8	·0000
01 02	64·8	106·5	47·8	115·3	47·2	−·0006	·0000	− 6·7	+ 0·7	−·0001
07	63·9	106·0		115·0		−·0007	·0000	− 7·3	+ 0·8	−·0001
12	63·0	107·4		116·0		−·0004	·0000	− 7·9	+ 0·4	·0000
17	64·5	108·4		114·9		−·0002	·0000	− 6·9	+ 0·2	·0000
22	65·0	107·9		114·0		−·0003	−·0001	− 6·5	+ 0·2	−·0001
27	64·7	107·4		114·0		−·0004	·0000	− 6·8	+ 0·4	·0000
32	64·1	106·0		114·0		−·0008	·0000	− 7·2	+ 0·9	−·0001
37	63·0	104·9		114·0		−·0010	·0000	− 8·0	+ 1·1	−·0001
42	60·6	105·3		115·2		−·0009	·0000	− 9·7	+ 1·0	−·0001
47	61·0	105·1		116·6		−·0010	+·0001	− 9·4	+ 1·2	·0000
52	62·2	103·9		119·3		−·0013	+·0002	− 8·6	+ 1·6	·0000
57	63·8	102·8		122·6		−·0015	+·0003	− 7·5	+ 1·9	+·0001
02 02	65·2	102·9	47·8	124·7	47·4	−·0015	+·0004	− 6·5	+ 2·0	+·0002
07	65·9	103·5		125·6		−·0014	+·0004	− 6·0	+ 1·8	+·0002
12	66·8	103·8		122·6		−·0013	+·0003	− 5·3	+ 1·7	+·0001
17	67·0	104·3		123·8		−·0012	+·0004	− 5·1	+ 1·7	+·0002
22	69·6	104·9		122·3		−·0011	+·0003	− 3·2	+ 1·5	+·0002
27	68·5	105·4		122·3		−·0010	+·0003	− 4·0	+ 1·4	+·0002
32	69·5	105·7		122·8		−·0009	+·0004	− 3·2	+ 1·4	+·0003
37	70·2	106·4		122·8		−·0008	+·0004	− 2·7	+ 1·3	+·0003
42	71·0	106·9		122·4		−·0006	+·0003	− 2·1	+ 1·0	+·0002
47	71·6	107·2		122·4		−·0006	+·0004	− 1·6	+ 1·1	+·0003
52	70·9	107·6		121·0		−·0005	+·0003	− 2·1	+ 0·9	+·0002
57	70·5	107·6		119·3		−·0005	+·0003	− 2·3	+ 0·9	+·0002
03 02	70·4	107·0	47·8	119·3	47·5	−·0006	+·0003	− 2·4	+ 1·0	+·0002
07	70·5	106·6		120·7		−·0007	+·0003	− 2·4	+ 1·1	+·0002
12	71·1	107·0		121·4		−·0006	+·0003	− 2·0	+ 1·0	+·0002
17	71·8	107·9		121·4		−·0004	+·0003	− 1·5	+ 0·8	+·0002
22	71·4	107·7		121·0		−·0005	+·0003	− 1·9	+ 0·9	+·0002
27	71·0	107·5		121·0		−·0005	+·0003	− 2·2	+ 0·9	+·0002
32	70·9	107·3		120·5		−·0006	+·0003	− 2·3	+ 1·0	+·0002
37	70·7	107·3		118·7		−·0006	+·0002	− 2·5	+ 0·9	+·0001
42	70·6	106·4		119·2		−·0008	+·0002	− 2·6	+ 1·1	+·0001
47	70·4	106·1		119·2		−·0008	+·0002	− 2·8	+ 1·1	+·0001
52	70·1	105·7		119·8		−·0009	+·0003	− 3·1	+ 1·3	+·0002
57	70·3	105·3		120·2		−·0010	+·0003	− 2·9	+ 1·4	+·0002
04 02	71·0	105·2	47·8	121·5	47·5	−·0010	+·0003	− 2·5	+ 1·4	+·0002
07	72·1	106·5		121·9		−·0007	+·0003	− 1·8	+ 1·1	+·0002
12	73·2	107·1		121·3		−·0006	+·0003	− 1·1	+ 1·0	+·0002
17	73·1	108·3		119·6		−·0003	+·0003	− 1·2	+ 0·7	+·0002
22	73·4	109·2		116·5		−·0001	+·0002	− 1·0	+ 0·3	+·0002
27	72·8	109·1		115·3		−·0001	+·0001	− 1·5	+ 0·2	+·0001
32	73·5	109·6		115·3		·0000	+·0001	− 1·0	+ 0·1	+·0001
37	74·5	110·2		115·4		+·0001	+·0001	− 0·4	0·0	+·0001

1844.
Van Diemen Island.

July 25.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
						$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
25 03 42	76·4	112·3		113·9		+·0006	+·0001	+ 1·0	− 0·5	+·0002
47	76·9	113·3		111·4		+·0008	·0000	+ 1·3	− 0·9	+·0001
52	78·0	114·3		109·7		+·0011	−·0001	+ 2·0	− 1·3	·0000
57	79·4	114·5		108·1		+·0011	−·0001	+ 2·9	− 1·3	·0000
05 02	79·3	114·0	48·0	106·4	47·7	+·0010	−·0002	+ 2·9	− 1·3	−·0001
07	78·2	114·3		105·7		+·0011	−·0002	+ 2·1	− 1·4	−·0001
12	77·8	113·6		103·9		+·0009	−·0002	+ 1·8	− 1·2	−·0001
17	76·2	113·6		102·7		+·0009	−·0003	+ 0·6	− 1·3	−·0002
22	74·8	113·0		101·1		+·0008	−·0003	− 0·4	− 1·2	−·0002
27	72·7	112·3		101·0		+·0006	−·0003	− 1·9	− 1·0	−·0002
32	71·3	111·2		101·5		+·0004	−·0003	− 2·9	− 0·8	−·0002
37	70·9	110·1		102·6		+·0002	−·0003	− 3·2	− 0·5	−·0002
42	70·1	108·6		104·1		−·0002	−·0002	− 3·9	0·0	−·0002
47	69·2	107·9		106·3		−·0004	−·0001	− 4·5	+ 0·3	−·0001
52	69·2	107·3		108·6		−·0005	−·0001	− 4·5	+ 0·4	−·0001
57	70·1	107·1		112·2		−·0005	+·0001	− 4·0	+ 0·7	·0000
06 02	72·1	107·0	48·1	113·5	47·8	−·0005	+·0001	− 2·5	+ 0·7	·0000
07	72·8	106·5		114·8		−·0006	+·0002	− 2·0	+ 0·9	+·0001
12	73·4	106·6		116·0		−·0006	+·0002	− 1·6	+ 0·9	+·0001
17	74·0	106·9		116·0		−·0006	+·0002	− 1·2	+ 0·9	+·0001
22	74·0	107·3		115·0		−·0005	+·0002	− 1·2	+ 0·8	+·0001
27	74·0	107·1		114·3		−·0005	+·0002	− 1·3	+ 0·8	+·0001
32	73·5	106·9		114·9		−·0006	+·0002	− 1·6	+ 0·9	+·0001
37	73·4	106·7		115·6		−·0006	+·0002	− 1·7	+ 0·9	+·0001
42	74·0	106·5		114·2		−·0007	+·0002	− 1·3	+ 1·0	+·0001
47	74·1	106·6		115·2		−·0007	+·0002	− 1·3	+ 1·0	+·0001
52	74·2	106·6		115·1		−·0007	+·0002	− 1·2	+ 1·0	+·0001
57	74·2	106·5		115·4		−·0007	+·0003	− 1·3	+ 1·1	+·0002
07 02	74·2	106·3	48·0	115·0	48·0	−·0007	+·0002	− 1·3	+ 1·0	+·0001
07	74·2	106·1		115·0		−·0008	+·0003	− 1·3	+ 1·2	+·0002
12	74·3	106·0		114·9		−·0008	+·0003	− 1·3	+ 1·2	+·0002
17	75·1	105·9		115·4		−·0009	+·0003	− 0·7	+ 1·3	+·0002
22	75·2	105·8		116·7		−·0009	+·0003	− 0·6	+ 1·3	+·0002
27	76·1	105·7		117·7		−·0009	+·0004	0·0	+ 1·4	+·0003
32	76·8	106·0		118·9		−·0008	+·0004	+ 0·4	+ 1·3	+·0003
37	78·8	106·0		118·9		−·0008	+·0004	+ 1·8	+ 1·3	+·0003
42	80·2	105·9		119·9		−·0009	+·0005	+ 2·8	+ 1·5	+·0004
47	81·9	105·6		121·7		−·0009	+·0005	+ 4·1	+ 1·5	+·0004
52	83·2	105·9		122·7		−·0009	+·0006	+ 4·9	+ 1·6	+·0004
57	84·3	106·3		122·0		−·0008	+·0005	+ 5·7	+ 1·4	+·0004
08 02	85·2	106·5	48·2	121·2	48·0	−·0007	+·0005	+ 6·3	+ 1·3	+·0004
07	85·6	107·0		119·3		−·0006	+·0005	+ 6·6	+ 1·2	+·0004
12	85·6	107·3		117·4		−·0006	+·0004	+ 6·7	+ 1·1	+·0003
17	84·2	107·4		114·9		−·0006	+·0003	+ 5·7	+ 1·0	+·0002
22	82·7	108·1		111·6		−·0004	+·0002	+ 4·7	+ 0·7	+·0001
27	81·3	108·2		109·6		−·0004	+·0001	+ 3·7	+ 0·5	·0000
32	79·7	108·3		107·6		−·0004	+·0001	+ 2·5	+ 0·5	·0000
37	78·0	108·6		106·4		−·0003	·0000	+ 1·3	+ 0·3	·0000
42	77·6	108·7		104·6		−·0003	·0000	+ 1·1	+ 0·3	·0000
47	76·8	108·6		103·8		−·0003	·0000	+ 0·6	+ 0·3	·0000
52	76·0	108·7		103·8		−·0003	·0000	0·0	+ 0·3	·0000
57	76·0	108·5		103·5		−·0003	·0000	+ 0·1	+ 0·3	·0000
09 02	75·8	108·5	48·4	103·7	48·2	−·0003	·0000	− 0·1	+ 0·3	·0000
07	75·8	109·0		103·7		−·0002	·0000	− 0·1	+ 0·2	·0000
12	75·6	108·7		103·7		−·0003	·0000	− 0·2	+ 0·3	·0000
17	75·8	108·5		104·7		−·0003	·0000	− 0·1	+ 0·3	·0000
22	76·0	108·5		104·7		−·0003	+·0001	+ 0·1	+ 0·4	+·0001
27	76·1	108·4		105·1		−·0003	+·0001	+ 0·2	+ 0·4	+·0001
32	76·0	108·3		105·5		−·0004	+·0001	+ 0·1	+ 0·5	·0000
37	76·2	108·3		106·8		−·0004	+·0001	+ 0·3	+ 0·5	·0000
42	76·5	108·1		106·8		−·0004	+·0001	+ 0·5	+ 0·5	·0000
47	76·3	108·2		107·8		−·0004	+·0002	+ 0·4	+ 0·7	+·0001
52	76·4	107·9		107·6		−·0005	+·0002	+ 0·5	+ 0·8	+·0001
57	75·9	107·9		107·4		−·0004	+·0002	+ 0·1	+ 0·7	+·0001

1844. Toronto. July 24.

TORONTO, 1844. JULY 24—25.

MEAN MONTHLY READINGS OF THE MAGNETOMETERS.

Mean Göttingen Time.	Declination.	H. F. at 70°·3.	V. F. at 69°·7.	Mean Göttingen Time.	Declination.	H. F. at 70°·3.	V. F. at 69°·7.
Hours.	Sc. Div.	Sc. Div.	Sc. Div.	Hours.	Sc. Div.	Sc. Div.	Sc. Div.
00	129·5	45·1	51·4	12	122·6	56·8	51·8
01	131·9	45·6	51·5	13	123·3	54·6	51·1
02	132·2	42·0	51·4	14	123·2	51·9	50·6
03	129·8	36·5	51·1	15	123·1	50·8	50·5
04	125·2	33·1	50·0	16	124·6	49·1	50·2
05	120·8	37·0	49·4	17	125·1	49·1	49·8
06	117·7	44·4	49·2	18	125·8	47·8	48·8
07	115·7	50·3	49·3	19	125·8	46·5	48·5
08	115·3	55·5	50·0	20	124·4	44·4	48·4
09	116·8	59·5	51·1	21	124·1	44·3	49·0
10	119·0	61·2	51·9	22	125·9	43·7	49·5
11	120·9	59·6	52·2	23	127·4	43·7	50·6

Coefficients (A), Approximate Absolute Values (B).

(A) Declin. $a = 0'\cdot721$

H. F. $k = \cdot000087$, $q = \cdot00027$

V. F. $k = \cdot000062$, $q = \cdot00007$

(B) Approx. $\psi = 1°\,25'$, X = 3·54, Y = 13·44, $\theta = 75°\,16'$, $\phi = 13\cdot90$

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm.	Sc. Div.	Therm.	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
24 10 02	119·9	51·8	72°·8	45·0	72°·3	−·0001	−·0003	+ 0·6	− 0·2	−·0003
07	119·8	51·4		45·0		−·0002	−·0003	+ 0·4	− 0·1	−·0003
12	119·6	50·5		45·0		−·0002	−·0003	+ 0·2	− 0·1	−·0003
17	119·8	50·1		45·0		−·0003	−·0003	+ 0·2	0·0	−·0003
22	119·8	49·3		45·0		−·0003	−·0003	+ 0·1	0·0	−·0003
27	119·8	49·7		45·0		− 0003	−·0003	0·0	0·0	−·0003
32	119·9	48·0		43·9		−·0004	−·0003	0·0	+ 0·1	−·0003
37	120·0	48·5		43·9		−·0004	−·0003	− 0·1	+ 0·1	−·0003
42	120·0	48·6		43·9		−·0004	−·0003	− 0·2	+ 0·1	−·0003
47	120·0	48·9		43·9		−·0003	−·0003	− 0·3	0·0	−·0003
52	120·0	49·7		43·9		−·0002	−·0003	− 0·4	− 0·1	−·0003
57	120·1	50·8		43·9		−·0001	−·0003	− 0·4	− 0·2	−·0003
11 02	120·2	49·2	72°·7	43·9	72°·2	−·0003	−·0003	− 0·5	0·0	−·0003
07	120·2	48·3		43·9		−·0003	−·0003	− 0·6	0·0	−·0003
12	120·4	48·9		43·9		−·0002	−·0003	− 0·6	− 0·1	−·0003
17	120·5	47·1		43·9		−·0004	−·0003	− 0·6	+ 0·1	−·0003
22	119·7	45·6		42·9		−·0005	−·0004	− 1·3	+ 0·1	−·0004
27	120·9	49·1		43·8		−·0002	−·0003	− 0·5	− 0·1	−·0003
32	120·8	50·8		43·8		·0000	−·0003	− 0·6	− 0·2	−·0003
37	120·8	50·5		43·8		·0000	−·0003	− 0·8	− 0·2	−·0003
42	119·9	51·3		43·3		+·0001	−·0004	− 1·5	− 0·4	−·0004
47	120·7	50·9		43·3		+·0001	−·0004	− 1·1	− 0·4	−·0004
52	121·1	50·7		43·3		+·0001	−·0004	− 0·8	− 0·4	−·0004
57	121·2	50·9		43·3		+·0001	−·0004	− 0·9	− 0·4	−·0004
12 02	121·1	50·8	72°·7	43·3	72°·2	+·0001	−·0004	− 1·1	− 0·4	−·0004
07	121·3	50·0		43·5		+·0001	−·0003	− 1·0	− 0·3	−·0003
12	121·4	50·8		43·5		+·0002	−·0003	− 0·9	− 0·4	−·0003
17	121·4	51·8		43·5		+·0002	−·0003	− 1·0	− 0·4	−·0003
22	121·4	51·5		43·5		+·0002	−·0003	− 1·0	− 0·4	−·0003
27	121·8	52·7		43·5		+·0003	−·0003	− 0·8	− 0·5	−·0003
32	121·8	52·9		43·5		+·0004	−·0003	− 0·8	− 0·6	−·0003
37	121·9	52·8		43·5		+·0004	−·0003	− 0·8	− 0·6	−·0003
42	121·6	52·5		43·5		+·0004	−·0003	− 1·1	− 0·6	−·0003
47	121·5	52·2		43·5		+·0003	−·0003	− 1·1	− 0·5	−·0003
52	121·9	52·5		43·5		+·0004	−·0003	− 0·9	− 0·6	−·0003
57	121·9	53·0		43·5		+·0004	−·0003	− 0·9	− 0·6	−·0003
13 02	121·5	52·1	72°·5	43·5	72°·0	+·0004	−·0003	− 1·3	− 0·6	−·0003
07	121·3	52·4		44·0		+·0004	−·0003	− 1·4	− 0·6	−·0003
12	121·4	52·4		44·0		+·0005	−·0003	− 1·3	− 0·7	−·0003
17	124·7	69·6		46·5		+·0020	−·0001	+ 1·0	− 1·8	·0000

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
24 13 22	124·9	64·5		44·6		+·0015	−·0002	+ 1·1	− 1·4	−·0001
27	122·1	63·5		43·5		+·0015	−·0003	− 0·8	− 1·5	−·0002
32	121·0	60·5		42·7		+·0012	−·0003	− 1·6	− 1·3	−·0002
37	120·5	59·5		42·1		+·0012	−·0004	− 1·9	− 1·4	−·0003
42	120·2	58·4		41·0		+·0011	−·0004	− 2·2	− 1·3	−·0003
47	120·9	59·4		41·0		+·0012	−·0004	− 1·6	− 1·4	−·0003
52	121·0	60·9		41·0		+·0013	−·0004	− 1·5	− 1·4	−·0003
57	120·8	61·0		41·0		+·0014	−·0004	− 1·7	− 1·5	−·0003
14 02	121·4	62·9	72·5	40·4	72·6	+·0016	−·0004	− 1·3	− 1·7	−·0003
07	121·5	63·2		40·4		+·0016	−·0004	− 1·2	− 1·7	−·0003
12	121·7	64·0		40·4		+·0017	−·0004	− 1·1	− 1·8	−·0003
17	121·2	64·2		39·7		+·0017	−·0005	− 1·4	− 1·9	−·0004
22	121·0	65·4		39·7		+·0018	−·0005	− 1·5	− 1·9	−·0003
27	121·1	66·3		39·7		+·0019	−·0005	− 1·5	− 2·0	−·0003
32	121·6	68·1		39·7		+·0020	−·0005	− 1·1	− 2·1	−·0003
37	122·0	70·9		39·7		+·0023	−·0004	− 0·8	− 2·3	−·0002
42	122·0	65·6		39·5		+·0019	−·0005	− 0·8	− 2·0	−·0003
47	121·0	62·0		39·5		+·0015	−·0005	− 1·5	− 1·7	−·0004
52	121·2	61·6		39·5		+·0015	−·0005	− 1·3	− 1·7	−·0004
57	120·8	61·7		39·5		+·0015	−·0005	− 1·6	− 1·7	−·0004
15 02	120·9	63·1	72·5	39·5	72·9	+·0017	−·0005	− 1·5	− 1·9	−·0004
07	121·0	63·7		39·5		+·0017	−·0005	− 1·5	− 1·9	−·0004
12	121·0	65·0		39·5		+·0019	−·0004	− 1·7	− 1·9	−·0002
17	120·8	63·0		39·5		+·0017	−·0004	− 1·9	− 1·8	−·0003
22	121·1	66·4		39·9		+·0020	−·0004	− 1·8	− 2·0	−·0002
27	122·9	68·8		39·9		+·0022	−·0004	− 0·6	− 2·2	−·0002
32	122·4	67·0		39·9		+·0021	−·0004	− 1·1	− 2·1	−·0002
37	122·4	66·2		39·9		+·0020	−·0004	− 1·1	− 2·0	−·0002
42	122·4	67·4		40·1		+·0021	−·0004	− 1·2	− 2·1	−·0002
47	122·0	66·7		40·1		+·0021	−·0004	− 1·5	− 2·1	−·0002
52	121·1	65·5		40·5		+·0020	−·0004	− 2·4	− 2·0	−·0002
57	121·0	65·0		40·5		+·0020	−·0004	− 2·6	− 2·0	−·0002
16 02	121·0	65·0	72·5	40·8	72·9	+·0020	−·0004	− 2·6	− 2·0	−·0002
07	120·7	64·4		40·8		+·0019	−·0004	− 2·8	− 1·9	−·0002
12	120·8	63·8		40·8		+·0019	−·0004	− 2·8	− 1·9	−·0002
17	121·0	63·6		41·0		+·0018	−·0004	− 2·7	− 1·9	−·0003
22	121·0	63·8		42·0		+·0019	−·0003	− 2·8	− 1·9	−·0002
27	121·1	64·0		42·0		+·0019	−·0003	− 2·7	− 1·9	−·0002
32	121·5	63·3		42·0		+·0018	−·0003	− 2·4	− 1·8	−·0002
37	121·9	63·3		41·6		+·0018	−·0003	− 2·2	− 1·8	−·0002
42	122·3	64·1		41·6		+·0019	−·0003	− 1·8	− 1·9	−·0002
47	122·8	65·2		42·8		+·0019	−·0002	− 1·5	− 1·8	−·0001
52	123·3	64·6		42·3		+·0019	−·0003	− 1·2	− 1·9	−·0002
57	123·9	64·4		42·3		+·0019	−·0003	− 0·8	− 1·9	−·0002
17 02	124·3	62·9	72·2	42·3	72·6	+·0017	−·0003	− 0·6	− 1·7	−·0002
07	126·6	63·9		42·7		+·0018	−·0002	+ 1·0	− 1·7	−·0001
12	130·0	62·8		41·5		+·0017	−·0003	+ 3·5	− 1·7	−·0002
17	130·7	61·1		41·5		+·0016	−·0003	+ 3·9	− 1·6	−·0002
22	129·5	58·1		41·5		+·0013	−·0003	+ 3·0	− 1·4	−·0002
27	129·0	58·7		41·5		+·0014	−·0003	+ 2·6	− 1·4	−·0002
32	127·0	66·5		41·5		+·0021	−·0003	+ 1·1	− 2·0	−·0001
37	126·3	55·8		41·5		+·0011	−·0003	+ 0·6	− 1·2	−·0002
42	125·3	72·9		41·0		+·0026	−·0003	− 0·2	− 2·4	−·0001
47	124·5	78·8		38·5		+·0031	−·0005	− 0·8	− 3·1	−·0003
52	123·5	56·4		38·5		+·0012	−·0004	− 1·5	− 1·4	−·0003
57	125·8	52·4		39·8		+·0009	−·0004	+ 0·1	− 1·1	−·0003
18 02	127·0	58·9	72·0	40·9	72·6	+·0014	−·0003	+ 0·8	− 1·4	−·0002
07	131·9	63·5		39·5		+·0018	−·0004	+ 4·4	− 1·9	−·0003
12	136·7	68·4		38·5		+·0023	−·0004	+ 7·8	− 2·3	−·0002
17	139·2	72·4		36·8		+·0026	−·0005	+ 9·7	− 2·6	−·0003
22	139·8	69·8		35·6		+·0024	−·0006	+10·1	− 2·5	−·0004
27	139·3	65·7		35·1		+·0021	−·0006	+ 9·8	− 2·3	−·0004

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OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
						$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
24 18 32	139·8	63·5		35·1		+·0019	−·0006	+10·1	− 2·1	−·0004
37	137·2	60·1		36·7		+·0016	−·0005	+ 8·2	− 1·8	−·0004
42	134·1	58·4		36·7		+·0015	−·0005	+ 6·0	− 1·7	−·0004
47	132·0	59·9		38·0		+·0016	−·0005	+ 4·4	− 1·8	−·0004
52	130·8	60·3		38·0		+·0017	−·0004	+ 3·6	− 1·8	−·0003
57	129·6	61·6		38·0		+·0018	−·0004	+ 2·8	− 1·9	−·0003
19 02	128·2	62·2	72·0	37·6	72·6	+·0018	−·0005	+ 1·7	− 1·9	−·0003
07	128·1	59·8		35·8		+·0016	−·0006	+ 1·7	− 1·9	−·0005
12	130·5	58·1		29·4		+·0015	−·0010	+ 3·5	− 2·1	−·0008
17	129·0	59·9		29·4		+·0017	−·0010	+ 2·6	− 2·3	−·0008
22	126·5	57·2		27·4		+·0014	−·0011	+ 0·8	− 2·1	−·0009
27	121·0	53·9		27·8		+·0012	−·0011	− 3·0	− 1·9	−·0009
32	114·7	52·5		25·5		+·0011	−·0012	− 7·5	− 1·9	−·0010
37	115·4	47·7		21·9		+·0006	−·0014	− 6·9	− 1·7	−·0013
42	115·5	44·0		20·9		+·0003	−·0015	− 6·8	− 1·5	−·0014
47	115·6	42·3		18·6		+·0002	−·0016	− 6·6	− 1·5	−·0015
52	118·9	43·4		17·5		+·0003	−·0017	− 4·1	− 1·7	−·0016
57	122·5	37·3		13·8		−·0002	−·0019	− 1·4	− 1·4	−·0018
20 02	125·6	31·6	71·8	11·4	72·6	−·0007	−·0021	+ 0·8	− 1·2	−·0020
07	128·2	35·0		12·7		−·0004	−·0020	+ 2·8	− 1·4	−·0019
12	127·2	33·0		11·9		−·0006	−·0021	+ 2·0	− 1·3	−·0020
17	128·6	32·3		13·8		−·0007	−·0020	+ 3·1	− 1·1	−·0019
22	129·3	35·1		15·5		−·0004	−·0019	+ 3·6	− 1·3	−·0018
27	127·7	29·8		14·6		−·0009	−·0019	+ 2·5	− 0·9	−·0018
32	127·5	29·5		14·6		−·0009	−·0019	+ 2·4	− 0·9	−·0018
37	124·2	29·6		16·4		−·0009	−·0018	0·0	− 0·8	−·0017
42	119·3	26·3		16·4		−·0012	−·0018	− 3·5	− 0·5	−·0018
47	121·1	34·6		20·9		−·0005	−·0016	− 2·3	− 0·9	−·0015
52	123·9	43·8		23·1		+·0003	−·0014	− 0·1	− 1·4	−·0013
57	126·9	50·5		24·9		+·0009	−·0013	+ 2·0	− 1·9	−·0012
21 02	129·8	53·5	71·5	24·9	72·0	+·0011	−·0013	+ 4·1	− 2·0	−·0011
07	133·0	51·3		25·4		+·0009	−·0013	+ 6·3	− 1·9	−·0012
12	136·1	52·0		26·4		+·0010	−·0012	+ 8·4	− 1·9	−·0011
17	136·4	51·3		26·4		+·0010	−·0012	+ 8·5	− 1·9	−·0011
22	134·5	48·5		26·3		+·0007	−·0013	+ 7·1	− 1·7	−·0012
27	134·8	48·9		26·1		+·0008	−·0013	+ 7·1	− 1·8	−·0012
32	136·1	47·6		27·1		+·0006	−·0012	+ 8·0	− 1·5	−·0011
37	138·3	49·7		30·0		+·0008	−·0010	+ 9·5	− 1·5	−·0009
42	138·7	48·2		30·1		+·0007	−·0010	+ 9·7	− 1·4	−·0009
47	138·0	43·3		27·9		+·0003	−·0012	+ 9·1	− 1·3	−·0011
52	139·6	39·4		26·6		−·0001	−·0012	+10·1	− 0·9	−·0011
57	138·4	37·4		25·4		−·0002	−·0013	+ 9·1	− 0·9	−·0012
22 02	139·1	41·1	71·5	25·9	72·2	+·0001	−·0013	+ 9·5	− 1·2	−·0012
07	144·0	47·4		29·4		+·0006	−·0011	+13·0	− 1·4	−·0010
12	145·2	56·1		29·9		+·0014	−·0011	+13·7	− 2·1	−·0009
17	145·1	55·6		32·6		+·0013	−·0009	+13·6	− 1·9	−·0008
22	144·0	54·7		33·6		+·0012	−·0008	+12·6	− 1·7	−·0007
27	143·8	53·9		34·2		+·0012	−·0008	+12·4	− 1·7	−·0007
32	141·5	48·2		35·2		+·0006	−·0007	+10·7	− 1·1	−·0006
37	139·8	51·7		35·2		+·0009	−·0007	+ 9·4	− 1·4	−·0006
42	136·5	53·4		36·2		+·0011	−·0007	+ 6·9	− 1·5	−·0006
47	133·1	54·2		36·2		+·0011	−·0007	+ 4·4	− 1·5	−·0006
52	131·0	52·4		36·1		+·0010	−·0007	+ 2·8	− 1·4	−·0006
57	131·5	51·0		36·1		+·0008	−·0007	+ 3·0	− 1·3	−·0006
23 02	132·1	50·2	71·0	35·9	72·2	+·0008	−·0007	+ 3·4	− 1·3	−·0006
07	131·0	48·3		36·2		+·0006	−·0007	+ 2·5	− 1·1	−·0006
12	128·7	46·5		35·9		+·0004	−·0007	+ 0·6	− 0·9	−·0006
17	129·1	45·1		35·0		+·0003	−·0008	+ 0·8	− 0·9	−·0007
22	128·9	46·0		35·0		+·0004	−·0008	+ 0·6	− 1·0	−·0007
27	129·0	46·4		35·9		+·0004	−·0008	+ 0·5	− 1·0	−·0007
32	131·4	44·7		34·1		+·0002	−·0009	+ 2·0	− 0·9	−·0008
37	133·0	43·4		34·1		+·0001	−·0009	+ 3·2	− 0·9	−·0008

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Toronto.

July 24—25.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
24 23 42	133·6	41·7		34·1		−·0001	−·0009	+ 3·5	− 0·7	−·0009
47	129·9	39·5		34·1		−·0003	−·0009	+ 0·6	− 0·5	−·0009
52	128·0	44·1		34·1		+·0001	−·0009	− 0·8	− 0·9	−·0008
57	127·3	45·5		34·1		+·0002	−·0009	− 1·4	− 0·9	−·0008
25 00 02	127·4	48·6	71·0	34·0	71·8	+·0005	−·0009	− 1·5	− 1·2	−·0008
07	125·9	45·5		34·0		+·0002	−·0009	− 2·8	− 0·9	−·0008
12	128·2	49·2		33·3		+·0005	−·0010	− 1·2	− 1·3	−·0009
17	128·3	49·4		34·6		+·0006	−·0009	− 1·3	− 1·3	−·0008
22	127·8	50·4		34·6		+·0006	−·0009	− 1·8	− 1·3	−·0008
27	124·9	48·2		30·4		+·0005	−·0012	− 4·0	− 1·4	−·0011
32	121·5	43·4		31·5		·0000	−·0011	− 6·6	− 0·9	−·0010
37	120·4	51·4		30·6		+·0007	−·0012	− 7·6	− 1·6	−·0011
42	122·0	50·2		33·0		+·0006	−·0010	− 6·6	− 1·4	−·0009
47	121·0	46·8		33·0		+·0003	−·0011	− 7·4	− 1·2	−·0010
52	122·2	49·6		33·0		+·0006	−·0011	− 6·7	− 1·4	−·0010
57	120·6	48·9		33·0		+·0005	−·0011	− 8·0	− 1·4	−·0010
01 02	120·2	49·0	71·0	33·1	70·9	+·0005	−·0011	− 8·4	− 1·4	−·0010
07	121·0	49·5		32·4		+·0005	−·0011	− 7·8	− 1·5	−·0010
12	119·8	47·0		33·6		+·0003	−·0010	− 8·8	− 1·1	−·0009
17	121·6	48·5		34·2		+·0005	−·0010	− 7·5	− 1·3	−·0009
22	122·9	49·0		34·8		+·0005	−·0010	− 6·6	− 1·3	−·0009
27	123·5	48·0		34·0		+·0004	−·0010	− 6·2	− 1·2	−·0009
32	122·9	48·6		34·1		+·0005	−·0010	− 6·6	− 1·3	−·0009
37	124·0	49·0		34·1		+·0005	−·0010	− 5·9	− 1·3	−·0009
42	123·7	47·6		34·1		+·0004	−·0010	− 6·1	− 1·2	−·0009
47	125·5	49·5		34·1		+·0006	−·0010	− 4·7	− 1·4	−·0009
52	126·3	54·4		35·6		+·0010	−·0010	− 4·2	− 1·7	−·0009
57	126·3	56·9		35·8		+·0012	−·0009	− 4·2	− 1·8	−·0008
02 02	129·0	63·5	70·0	36·3	70·0	+·0018	−·0009	− 2·3	− 2·3	−·0007
07	129·1	65·8		36·3		+·0020	−·0009	− 2·0	− 2·4	−·0007
12	127·2	65·6		36·7		+·0021	−·0009	− 3·3	− 2·5	−·0007
17	126·0	66·2		38·1		+·0022	−·0008	− 4·0	− 2·5	−·0006
22	125·2	62·7		38·1		+·0019	−·0008	− 4·4	− 2·3	−·0006
27	125·1	58·4		38·1		+·0016	−·0008	− 4·4	− 2·0	−·0006
32	126·1	57·1		40·0		+·0015	−·0007	− 3·5	− 1·9	−·0006
37	127·9	28·0		40·6		+·0016	−·0006	− 2·0	− 1·9	−·0005
42	127·5	59·1		41·5		+·0017	−·0006	− 2·3	− 1·9	−·0004
47	127·4	53·0		39·5		+·0012	−·0007	− 2·2	− 1·6	−·0006
52	127·1	44·6		39·2		+·0006	−·0007	− 2·3	− 1·1	−·0006
57	131·8	46·4		41·5		+·0007	−·0006	+ 1·3	− 1·1	−·0005
03 02	131·1	49·3	70·0	42·5	70·0	+·0010	−·0005	+ 0·9	− 1·3	−·0004
07	130·0	53·1		42·5		+·0014	−·0005	+ 0·4	− 1·6	−·0004
12	129·9	54·3		41·9		+·0015	−·0005	+ 0·6	− 1·7	−·0004
17	127·3	49·2		41·0		+·0011	−·0006	− 1·0	− 1·4	−·0005
22	131·5	44·7		41·7		+·0007	−·0005	+ 2·3	− 1·0	−·0004
27	131·0	41·6		41·7		+·0005	−·0005	+ 2·3	− 0·9	−·0004
32	130·0	38·1		41·7		+·0002	−·0005	+ 1·8	− 0·6	−·0005
37	130·1	37·1		42·0		+·0002	−·0005	+ 2·2	− 0·6	−·0005
42	129·7	40·1		42·0		+·0004	−·0005	+ 2·2	− 0·8	−·0004
47	127·9	37·4		42·0		+·0002	−·0005	+ 1·1	− 0·6	−·0004
52	127·0	35·3		40·9		+·0001	−·0005	+ 0·7	− 0·5	−·0005
57	127·2	37·8		41·5		+·0003	−·0005	+ 1·1	− 0·7	−·0005
04 02	125·0	45·5	70·0	42·4	70·2	+·0010	−·0004	− 0·1	− 1·2	−·0003
07	122·8	45·6		42·4		+·0010	−·0004	− 1·4	− 1·2	−·0003
12	119·6	39·5		40·4		+·0005	−·0005	− 3·5	− 0·9	−·0004
17	120·0	32·3		40·9		−·0002	−·0006	− 3·0	− 0·3	−·0006
22	121·1	34·6		41·4		·0000	−·0005	− 1·8	− 0·4	−·0005
27	120·0	34·9		41·4		·0000	−·0005	− 2·5	− 0·4	−·0005
32	119·1	38·9		41·4		+·0003	−·0005	− 2·8	− 0·7	−·0005
37	119·1	37·5		42·4		+·0002	−·0004	− 2·6	− 0·5	−·0004
42	118·4	36·3		42·4		+·0001	−·0004	− 2·8	− 0·4	−·0004
47	118·7	32·7		41·7		−·0003	−·0004	− 2·3	− 0·1	−·0004

1844.
Toronto.

July 25.

OBSERVATIONS OF THE MAGNETOMETERS. The Declination was observed 2m. before, and the V. F. 1m. after the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta \psi$	$\Delta \theta$	$\frac{\Delta \phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
25 04 52	118·7	30·5		41·7		−·0005	−·0004	− 2·0	+ 0·1	−·0004
57	119·2	28·7		41·2		−·0007	−·0004	− 1·4	+ 0·2	−·0004
05 02	120·6	25·7	70·5	41·5	70·4	−·0009	−·0004	− 0·1	+ 0·4	−·0004
07	121·7	29·7		42·0		−·0006	−·0004	+ 0·8	+ 0·2	−·0004
12	122·4	31·2		42·0		−·0005	−·0004	+ 1·5	+ 0·1	−·0004
17	122·1	30·2		42·0		−·0007	−·0004	+ 1·5	+ 0·2	−·0004
22	123·3	30·6		42·7		−·0007	−·0004	+ 2·6	+ 0·2	−·0004
27	122·7	31·0		43·2		−·0007	−·0003	+ 2·3	+ 0·3	−·0003
32	120·3	31·4		43·2		−·0007	−·0003	+ 0·7	+ 0·3	−·0003
37	117·3	29·7		43·2		−·0009	−·0003	+ 1·2	+ 0·5	−·0003
42	116·6	29·8		43·2		−·0009	−·0003	− 1·5	+ 0·5	−·0003
47	115·4	33·3		44·2		−·0006	−·0003	− 2·3	+ 0·2	−·0003
52	114·0	33·3		43·7		−·0007	−·0003	− 3·0	+ 0·3	−·0003
57	113·6	30·1		43·7		−·0010	−·0003	− 3·2	+ 0·6	−·0003
06 02	115·6	32·6	71·0	43·7	70·6	−·0008	−·0003	− 1·5	+ 0·4	−·0003
07	116·7	35·5		44·7		−·0006	−·0002	− 0·6	+ 0·3	−·0002
12	115·9	36·5		44·7		−·0006	−·0002	− 1·1	+ 0·3	−·0002
17	115·0	34·3		44·7		−·0008	−·0002	− 1·5	+ 0·5	−·0002
22	116·4	35·6		44·7		−·0007	−·0002	− 0·4	+ 0·4	−·0002
27	116·7	34·8		44·7		−·0008	−·0002	− 0·1	+ 0·5	−·0002
32	116·1	37·2		45·6		−·0006	−·0002	− 0·4	+ 0·3	−·0002
37	116·3	40·5		45·9		−·0004	−·0001	− 0·1	+ 0·2	−·0001
42	115·0	40·6		45·6		−·0004	−·0002	− 1·0	+ 0·2	−·0002
47	115·6	40·6		45·6		−·0004	−·0002	− 0·4	+ 0·2	−·0002
52	117·2	40·7		45·6		−·0003	−·0002	+ 0·8	+ 0·1	−·0002
57	117·0	42·3		46·3		−·0003	−·0001	+ 0·8	+ 0·2	−·0001
07 02	117·0	43·4	71·4	46·3	70·8	−·0003	−·0001	+ 0·9	+ 0·2	−·0001
07	116·3	44·0		46·4		−·0004	−·0001	+ 0·4	+ 0·2	−·0001
12	116·3	42·5		46·4		−·0005	−·0001	+ 0·5	+ 0·3	−·0001
17	116·8	42·2		46·4		−·0005	−·0001	+ 0·8	+ 0·3	−·0001
22	116·8	42·9		46·9		−·0005	−·0001	+ 0·8	+ 0·3	−·0001
27	116·8	42·5		46·9		−·0006	−·0001	+ 0·9	+ 0·4	−·0001
32	116·2	41·8		46·7		−·0007	−·0001	+ 0·5	+ 0·5	−·0001
37	116·7	43·5		46·3		−·0005	−·0001	+ 0·8	+ 0·3	−·0001
42	117·7	45·7		47·2		−·0004	−·0001	+ 1·6	+ 0·2	−·0001
47	116·4	46·9		46·8		−·0003	−·0001	+ 0·7	+ 0·2	−·0001
52	115·1	47·4		46·8		−·0003	−·0001	− 0·2	+ 0·2	−·0001
57	114·1	47·2		46·8		−·0004	−·0001	− 0·8	+ 0·2	−·0001
08 02	112·1	44·9	71·5	46·8	71·0	−·0006	−·0001	− 2·3	+ 0·4	−·0001
07	112·4	47·0		47·3		−·0004	−·0001	− 2·2	+ 0·2	−·0001
12	113·7	48·7		48·4		−·0003	·0000	− 1·3	+ 0·2	·0000
17	116·4	54·7		48·4		+·0002	·0000	+ 0·5	− 0·2	·0000
22	116·7	55·5		49·3		+·0002	·0000	+ 0·6	− 0·2	·0000
27	117·8	61·1		49·3		+·0007	·0000	+ 1·3	− 0·6	·0000
32	119·2	63·6		50·5		+·0009	+·0001	+ 2·3	− 0·7	+·0001
37	119·0	62·8		50·5		+·0008	+·0001	+ 2·0	− 0·6	+·0001
42	119·0	64·1		50·4		+·0009	+·0001	+ 1·9	− 0·7	+·0001
47	118·9	63·4		50·0		+·0008	+·0001	+ 1·8	− 0·6	+·0001
52	118·2	63·2		50·0		+·0008	+·0001	+ 1·1	− 0·6	+·0001
57	117·5	64·3		50·0		+·0008	·0000	+ 0·6	− 0·7	·0000
09 02	118·0	62·7	71·7	50·0	71·2	+·0007	·0000	+ 0·8	− 0·6	·0000
07	117·9	65·6		50·0		+·0009	·0000	+ 0·6	− 0·8	·0000
12	117·0	60·7		49·9		+·0005	·0000	− 0·1	− 0·4	·0000
17	117·5	59·6		49·9		+·0004	·0000	+ 0·1	− 0·3	·0000
22	117·7	58·5		49·7		+·0003	·0000	+ 0·1	− 0·2	·0000
27	117·4	59·0		49·7		+·0003	·0000	− 0·2	− 0·2	·0000
32	118·0	59·0		50·6		+·0003	+·0001	+ 0·1	− 0·2	+·0001
37	118·0	59·8		50·6		+·0004	+·0001	− 0·1	− 0·2	+·0001
42	118·2	56·5		50·6		+·0001	+·0001	− 0·1	0·0	+·0001
47	119·2	58·1		50·6		+·0002	·0000	+ 0·6	− 0·2	·0000
52	119·0	58·1		50·6		+·0002	·0000	+ 0·3	− 0·2	·0000
57	119·2	60·5		51·6		+·0004	·0000	+ 0·3	− 0·3	·0000

1844.
Van Diemen Island.

July 26, 27, and 31.

For Mean Monthly Readings, *see* page 354.

VAN DIEMEN ISLAND, 1844. JULY 26–31.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
26 21 02	78·1	105·2	48·2	123·2	47·4	−·0010	+·0003	+ 1·1	+ 1·4	+·0002
22 02	75·4	105·7	48·0	121·7	47·6	−·0008	+·0003	− 0·8	+ 1·2	+·0002
23 02	74·8	104·4	48·0	120·3	47·6	−·0011	+·0003	− 0·1	+ 1·5	+·0002
27 00 02	69·0	102·0	48·0	120·0	47·5	−·0016	+·0002	− 3·7	+ 1·9	·0000
01 02	77·3	105·9	48·0	122·9	47·3	−·0007	+·0003	+ 2·2	+ 1·1	+·0002
07	76·3	106·9		121·4		−·0005	+·0002	+ 1·5	+ 0·8	+·0001
12	75·2	107·7		118·7		−·0003	+·0001	+ 0·7	+ 0·4	+·0001
17	74·8	107·6		116·9		−·0004	+·0001	+ 0·4	+ 0·5	·0000
22	74·8	108·4		118·1		−·0002	+·0001	+ 0·4	+ 0·3	+·0001
27	75·8	109·2		117·3		·0000	+·0001	+ 1·1	+ 0·1	+·0001
32	77·1	109·4		116·5		+·0001	+·0001	+ 2·0	0·0	+·0001
37	75·5	109·5		113·9		+·0001	−·0001	+ 0·8	− 0·2	−·0001
42	74·4	110·1		113·1		+·0002	−·0001	+ 0·1	− 0·3	−·0001
47	74·2	110·2		113·5		+·0002	−·0001	− 0·1	− 0·3	−·0001
52	74·8	109·8		113·7		+·0001	−·0001	+ 0·4	− 0·2	−·0001
57	75·7	109·7		115·1		+·0001	·0000	+ 1·0	− 0·1	·0000
02 02	76·4	110·0	48·0	115·7	47·2	+·0002	·0000	+ 1·5	− 0·2	·0000
31 01 02	74·8	109·5	47·4	118·1	46·6	·0000	−·0001	+ 0·4	− 0·1	−·0001
02 02	75·9	114·6	47·0	110·1	46·4	+·0010	−·0004	+ 1·1	− 1·5	−·0003
03 02	67·7	114·7	46·8	104·1	46·4	+·0009	−·0005	− 4·4	− 1·5	−·0004
07	68·2	114·6		105·9		+·0009	−·0005	− 4·1	− 1·5	−·0004
12	68·2	114·4		106·9		+·0008	−·0004	− 4·1	− 1·3	−·0003
17	68·1	115·1		109·4		+·0010	−·0004	− 4·2	− 1·5	−·0003
22	68·7	114·9		108·2		+·0010	−·0004	− 3·9	− 1·5	−·0003
27	67·9	114·2		108·1		+·0008	−·0004	− 4·4	− 1·3	−·0003
32	67·6	113·0		107·5		+·0005	−·0004	− 4·7	− 1·0	−·0003
37	68·0	112·0		108·8		+·0003	−·0004	− 5·5	− 0·8	−·0003
42	68·0							− 4·5		
04 02	71·9	112·3	47·0	116·1	46·0	+·0004	−·0002	− 1·9	− 0·7	−·0001
05 02	74·6	111·2	46·5	117·9	46·0	·0000	−·0001	− 0·4	− 0·1	−·0001

1844.
Van Diemen Island.

August.

AUGUST 1—2.

MEAN MONTHLY READINGS OF THE MAGNETOMETERS.

Mean Göttingen Time.	Declination.	H. F. at 47°·7.	V. F. at 47°·1.	Mean Göttingen Time.	Declination.	H. F. at 47°·7.	V. F. at 47°·1.
Hours.	Sc. Div.	Sc. Div.	Sc. Div.	Hours.	Sc. Div.	Sc. Div.	Sc. Div.
00	74·5	108·9	117·2	12	73·6	110·0	107·6
01	73·1	110·1	113·6	13	72·2	108·6	109·0
02	73·5	108·4	117·2	14	73·1	107·0	112·1
03	73·4	108·9	115·2	15	75·4	105·6	115·1
04	74·0	109·0	114·8	16	78·1	105·5	118·1
05	74·9	108·9	115·3	17	80·0	106·8	119·6
06	76·2	109·6	114·4	18	80·5	107·8	119·8
07	75·9	109·9	111·7	19	80·0	109·0	118·6
08	76·5	109·8	112·0	20	78·1	109·4	117·7
09	75·9	109·5	110·6	21	76·4	109·2	116·6
10	76·0	110·6	109·2	22	76·1	108·8	117·1
11	74·7	110·4	107·9	23	75·8	109·1	117·0

Coefficients (A), Approximate Absolute Values (B.)

(A) Declin. . $a = 0'·71$

H. F. $k = ·000229$, $q = ·000230$

V. F. $k = ·000036$, $q = ·00021$

(B) Approx. $\psi = -9° 55'$, $X = 4·51$, $Y = 12·86$, $\theta = -70° 37'$, $\phi = 13·62$

1844.
Van Diemen Island.

August 1.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
						$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta \psi$	$\Delta \theta$	$\frac{\Delta \phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. ○	Sc. Div.	Therm. ○	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
1 00 02	74·0	110·4	45·5	121·0	45·0	−·0002	−·0003	− 0·4	− 0·1	−·0003
01 02	69·1	114·2	45·2	113·2	45·0	+·0004	−·0001	− 2·8	− 0·5	·0000
02 02	70·0	110·4	45·0	120·3	45·0	−·0002	−·0003	− 2·5	− 0·1	−·0003
03 02	75·0	111·8	45·0	123·1	45·0	+·0001	−·0002	+ 1·1	− 0·3	−·0002
04 02	74·0	111·7	45·0	121·1	44·6	·0000	−·0003	0·0	− 0·3	−·0003
05 02	75·9	111·6	44·8	122·6	44·5	−·0001	−·0003	+ 0·7	− 0·2	−·0003
06 02	84·0	115·4	44·7	127·5	44·4	+·0006	−·0001	+ 5·6	− 0·8	·0000
07 02	84·0	115·4	44·7	127·5	44·4	+·0006	·0000	+ 5·8	− 0·7	+·0001
07	86·1	117·0		123·7		+·0009	−·0001	+ 7·2	− 1·1	·0000
12	86·1	118·2		121·0		+·0012	−·0003	+ 7·2	− 1·6	−·0001
17	86·5	118·9		115·5		+·0014	−·0004	+ 7·4	− 1·9	−·0002
22	83·1	119·9		111·0		+·0016	−·0006	+ 5·0	− 2·4	−·0004
27	81·0	122·3		105·8		+·0021	−·0008	+ 3·4	− 3·1	−·0005
32	79·6	122·7		101·0		+·0022	−·0010	+ 2·4	− 3·5	−·0007
37	79·5	121·1		98·0		+·0019	−·0011	+ 2·2	− 3·2	−·0008
42	77·1	119·2		98·3		+·0015	−·0011	+ 0·6	− 2·8	−·0008
47	76·2	118·4		98·5		+·0013	−·0011	− 0·1	− 2·6	−·0008
52	75·0	117·1		98·6		+·0009	−·0011	− 1·0	− 2·2	−·0009
57	73·9	115·4		101·2		+·0006	−·0010	− 1·8	− 1·7	−·0008
08 02	92·1	110·7	44·5	122·7	44·2	−·0005	−·0002	+11·1	+ 0·3	−·0002
07	90·3	109·9		118·0		−·0007	−·0004	+ 9·8	+ 0·3	−·0004
12	85·8	107·5		117·8		−·0012	−·0004	+ 6·7	+ 0·9	−·0005
17	83·8	106·8		121·2		−·0014	−·0003	+ 5·4	+ 1·2	−·0004
22	84·0	107·5		122·2		−·0012	−·0002	+ 5·5	+ 1·1	−·0003
27	84·7	109·2		122·1		−·0009	−·0002	+ 6·1	+ 0·8	−·0003
32	86·3	109·7		120·5		−·0007	−·0003	+ 7·2	+ 0·4	−·0003
37	85·9	110·6		118·8		−·0005	−·0003	+ 7·0	+ 0·2	−·0003
42	85·8	111·4		115·8		−·0004	−·0004	+ 6·9	0·0	−·0004
47	84·0	111·7		111·2		−·0003	−·0006	+ 5·7	− 0·3	−·0006
52	80·3	112·5		106·2		−·0001	−·0008	+ 3·0	− 0·8	−·0007
57	77·9	112·1		103·6		−·0002	−·0009	+ 1·4	− 0·8	−·0008
09 02	75·0	111·5	44·4	102·4	44·2	−·0003	−·0009	− 0·6	− 0·7	−·0008
07	75·2	109·6		103·1		−·0008	−·0009	− 0·5	− 0·1	−·0009
12	75·8	109·4		105·2		−·0008	−·0008	− 0·1	0·0	−·0008
17	76·6	108·4		107·2		−·0011	−·0007	+ 0·5	+ 0·4	−·0007
22	76·0	107·2		108·3		−·0014	−·0007	+ 0·1	+ 0·8	−·0008
27	78·3	108·0		111·0		−·0012	−·0006	+ 1·7	+ 0·7	−·0007
32	79·1	108·3		111·9		−·0012	−·0005	+ 2·2	+ 0·8	−·0006
37	79·3	108·6		111·2		−·0011	−·0006	+ 2·3	+ 0·5	−·0007
42	78·6	109·3		110·4		−·0010	−·0006	+ 1·8	+ 0·4	−·0006
47	78·2	—		—		—	—	+ 1·5	—	—
10 02	76·7	112·7	44·4	102·4	44·2	−·0003	−·0009	+ 0·5	− 0·7	−·0008
11 02	76·0	106·4	44·4	114·9	44·2	−·0017	−·0004	+ 0·9	+ 1·4	−·0005
12 02	71·9	106·9	44·5	111·7	44·0	−·0015	−·0005	− 1·2	+ 1·1	−·0006
13 02	73·3	106·3	44·3	116·3	43·8	−·0013	−·0004	+ 0·8	+ 1·0	−·0005
14 02	73·9	107·0	44·3	119·9	43·8	−·0008	−·0004	+ 0·6	+ 0·4	−·0004
15 02	75·3	104·3	44·7	124·6	44·0	−·0010	−·0003	− 0·1	+ 0·8	−·0004
16 02	78·8	105·8	45·1	125·4	44·4	−·0005	−·0003	+ 0·5	+ 0·2	−·0003
17 02	81·6	107·1	45·2	126·1	44·7	−·0005	−·0003	+ 1·1	+ 0·2	−·0003
18 02	82·2	105·4	45·9	129·5	45·2	−·0010	−·0001	+ 1·2	+ 1·0	−·0002
19 02	84·0	104·8	46·3	131·8	45·6	−·0013	+·0002	+ 2·8	+ 1·6	·0000
20 02	77·1	106·9	46·6	120·5	46·0	−·0008	−·0001	− 0·7	+ 0·8	−·0002
21 02	76·9	104·7	46·8	124·8	46·2	−·0012	+·0001	+ 0·4	+ 1·4	·0000
22 02	68·0	104·4	46·9	122·5	46·3	−·0012	·0000	− 5·8	+ 1·3	−·0001
07	69·1	106·1		120·7		−·0008	·0000	− 5·0	+ 0·9	−·0001
12	68·6	106·5		117·2		−·0007	−·0002	− 5·3	+ 0·5	−·0003
17	67·7	107·6		115·4		−·0005	−·0002	− 5·9	+ 0·3	−·0002
22	67·8	107·9		113·7		−·0004	−·0003	− 5·8	+ 0·1	−·0003
27	67·6	107·6		113·7		−·0005	−·0003	− 6·0	+ 0·2	−·0003
32	69·1	107·9		115·3		−·0004	−·0002	− 4·9	+ 0·2	−·0002
37	70·8	107·3		116·4		−·0006	−·0002	− 3·7	+ 0·4	−·0002
42	70·6	—		—		—	—	− 3·8	—	—

1844. Van Diemen Island. August 1—2.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
						$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
1 23 02	73·2	103·0	47·0	125·7	46·5	−·0016	+·0002	− 1·8	+ 1·9	·0000
2 00 02	71·1	106·5	47·2	119·0	46·7	−·0007	·0000	− 2·4	+ 0·8	−·0001
01 02	71·1	106·7	47·2	118·1	46·6	−·0009	+·0001	− 1·4	+ 1·1	·0000
02 02	75·9	106·0	47·1	123·1	46·6	−·0007	+·0001	+ 1·7	+ 0·9	·0000

1844. Toronto. August 1.

TORONTO, 1844. AUGUST 1.

MEAN MONTHLY READINGS OF THE MAGNETOMETERS.

Mean Göttingen Time.	Declination.	H. F. at 68°·7.	V. F. at 68°·3.	Mean Göttingen Time.	Declination.	H. F. at 68°·7.	V. F. at 68°·3.
Hours.	Sc. Div.	Sc. Div.	Sc. Div.	Hours.	Sc. Div.	Sc. Div.	Sc. Div.
00	130·1	55·9	28·5	12	123·6	63·6	31·6
01	131·5	52·0	28·6	13	123·5	60·9	31·1
02	131·3	48·6	28·4	14	124·7	59·4	29·9
03	127·9	41·1	28·1	15	123·8	60·0	28·7
04	122·5	40·6	27·8	16	124·4	59·3	27·6
05	117·3	44·0	27·4	17	124·1	58·1	27·0
06	114·7	51·8	28·0	18	125·2	57·2	26·2
07	113·1	59·2	29·1	19	124·6	54·8	26·0
08	114·3	66·4	30·6	20	123·5	54·8	26·0
09	116·9	70·3	31·0	21	122·8	54·3	25·6
10	119·0	70·4	31·2	22	124·4	54·5	27·5
11	121·4	68·8	31·8	23	125·9	54·2	27·8

Coefficients (A), Approximate Absolute Values (B).

(A) Declin. $a = 0'·721$

H. F. $k = ·00087$, $q = ·00027$

V. F. $k = ·000062$, $q = ·00007$

(B) Approx. $\psi = 1°\,26'$, $X = 3·54$, $Y = 13·44$, $\theta = 75°\,16'$, $\phi = 13·90$

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
						$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
1 04 02	127·4	49·8	74·0	15·3	73·6	+·0022	−·0004	+ 3·5	− 2·2	−·0002
05 02	127·7	11·6	74·4	6·5	73·4	−·0013	−·0009	+ 7·5	+ 0·3	−·0009
12	131·2	26·8		14·5		·0000	−·0004	+10·3	− 0·3	−·0004
17	129·0	34·5		14·2		+·0006	−·0005	+ 8·9	− 0·9	−·0004
22	127·4	41·2		12·6		+·0011	−·0006	+ 7·9	− 1·4	−·0005
27	126·8	47·3		14·0		+·0016	−·0005	+ 7·6	− 1·8	−·0004
32	129·1	50·6		14·8		+·0019	−·0004	+ 9·5	− 1·9	−·0002
37	129·2	54·0		14·8		+·0021	−·0004	+ 9·7	− 2·1	−·0002
42	125·0	49·0		13·3		+·0016	−·0005	+ 6·8	− 1·8	−·0004
47	124·7	51·6		14·2		+·0018	−·0004	+ 6·7	− 1·9	−·0003
52	124·8	59·9		15·1		+·0025	−·0004	+ 7·0	− 2·4	−·0002
57	120·9	45·3		12·5		+·0012	−·0005	+ 4·3	− 1·4	−·0004
06 02	116·2	31·1	75·0	12·6	74·4	−·0001	−·0005	+ 1·1	− 0·3	−·0005
07	114·1	33·3		15·8		·0000	−·0003	− 0·4	− 0·2	−·0003
12	113·8	31·6		16·5		−·0001	−·0003	− 0·4	− 0·2	−·0003
17	114·9	34·8		16·2		+·0001	−·0003	+ 0·4	− 0·3	−·0003
22	112·8	38·9		19·8		+·0004	−·0001	− 1·0	− 0·4	·0000
27	113·2	45·1		22·5		+·0009	+·0001	− 0·6	− 0·7	+·0001
32	116·3	44·2		22·5		+·0008	+·0001	+ 1·7	− 0·6	+·0001
37	114·0	48·5		23·5		+·0011	+·0001	+ 0·1	− 0·9	+·0002
42	118·9	36·2		22·2		·0000	+·0001	+ 3·8	+ 0·1	+·0001
47	110·0	36·8		24·0		·0000	+·0002	− 2·6	+ 0·2	+·0002
52	112·2	46·7		25·0		+·0008	+·0002	− 0·8	− 0·5	+·0002
57	110·9	48·7		26·1		+·0010	+·0003	− 1·6	− 0·6	+·0003

1844. Toronto.

August 1.

OBSERVATIONS OF THE MAGNETOMETERS. The Declination was observed 2m. before, and the V. F. 1m. after the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta \psi$	$\Delta \theta$	$\frac{\Delta \phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
1 07 02	110·1	53·2	75·5	26·9	74·9	+·0013	+·0003	− 2·2	− 0·9	+·0004
07	108·8	57·1		27·8		+·0016	+·0004	− 3·2	− 1·0	+·0005
12	108·3	62·4		27·8		+·0020	+·0004	− 3·6	− 1·4	+·0005
17	108·6	56·8		28·0		+·0015	+·0004	− 3·5	− 0·9	+·0005
22	108·3	55·8		28·4		+·0014	+·0004	− 3·7	− 0·9	+·0005
27	110·0	48·1		28·2		+·0007	+·0004	− 2·6	− 0·2	+·0004
32	108·3	60·4		30·5		+·0017	+·0005	− 3·9	− 1·0	+·0006
37	105·1	67·0		30·7		+·0022	+·0005	− 6·3	− 1·4	+·0006
42	104·5	62·1		32·3		+·0018	+·0006	− 6·8	− 1·0	+·0007
47	105·9	66·6		32·3		+·0021	+·0006	− 5·9	− 1·3	+·0007
52	105·7	61·5		32·3		+·0016	+·0006	− 6·1	− 1·9	+·0007
57	105·9	65·4		34·3		+·0019	+·0007	− 6·0	− 1·0	+·0008
08 02	104·5	72·5	76·0	34·3	75·4	+·0025	+·0007	− 7·1	− 1·5	+·0008
07	107·8	68·3		34·3		+·0021	+·0007	− 4·8	− 1·2	+·0008
12	107·2	43·0		34·3		−·0001	+·0007	− 5·4	+ 0·7	+·0007
17	105·4	40·4		31·3		−·0003	+·0006	− 6·9	+ 0·8	+·0005
22	101·3	45·2		31·3		+·0001	+·0006	−10·0	+ 0·4	+·0006
27	100·2	50·0		34·7		+·0005	+·0008	−10·9	+ 0·2	+·0008
32	102·8	48·5		34·7		+·0003	+·0008	− 9·3	+ 0·4	+·0008
37	106·2	47·6		34·7		+·0002	+·0008	− 6·9	+ 0·5	+·0008
42	109·9	61·5		36·4		+·0014	+·0009	− 4·4	− 0·4	+·0009
47	110·0	63·1		35·5		+·0016	+·0008	− 4·4	− 0·7	+·0008
52	110·3	63·6		34·7		+·0016	+·0008	− 4·4	− 0·7	+·0008
57	108·3	57·0		32·8		+·0010	+·0006	− 6·1	− 0·3	+·0006
09 02	106·1	55·5	76·7	31·5	75·9	+·0009	+·0006	− 7·8	− 0·2	+·0006
07	106·1	49·9		29·5		+·0004	+·0004	− 7·9	0·0	+·0004
12	103·9	42·8		28·0		−·0002	+·0004	− 9·7	+ 0·5	+·0004
17	103·9	45·6		27·3		·0000	+·0003	− 9·8	+ 0·2	+·0003
22	103·9	43·4		25·5		−·0002	+·0002	− 9·9	+ 0·3	+·0002
27	104·9	56·1		27·2		+·0010	+·0003	− 9·3	− 0·6	+·0003
32	106·1	61·8		27·3		+·0015	+·0003	− 8·5	− 1·0	+·0004
37	106·1	71·0		28·3		+·0023	+·0004	− 8·7	− 1·6	+·0005
42	105·8	73·3		28·2		+·0025	+·0004	− 9·1	− 1·8	+·0005
47	107·0	77·0		28·2		+·0028	+·0004	− 8·3	− 2·0	+·0006
52	106·6	80·1		28·2		+·0031	+·0004	− 8·8	− 2·3	+·0006
57	106·8	72·3		26·7		+·0024	+·0003	− 8·7	− 1·8	+·0004
10 02	105·5	68·0	77·1	26·0	76·2	+·0021	+·0002	− 9·8	− 1·6	+·0003
07	102·9	60·8		25·2		+·0014	+·0002	−11·7	− 1·0	+·0003
12	101·0	50·0		25·2		+·0005	+·0002	−13·3	− 0·2	+·0002
17	102·1	49·5		25·7		+·0005	+·0002	−12·6	− 0·2	+·0002
22	105·0	40·9		25·0		−·0002	+·0002	−10·7	+ 0·3	+·0002
27	107·0	36·5		24·8		−·0006	+·0001	− 9·4	+ 0·6	+·0001
32	108·0	33·3		23·4		−·0008	+·0001	− 8·8	+ 0·8	·0000
37	108·8	32·3		22·2		−·0009	·0000	− 8·3	+ 0·8	−·0001
42	108·8	27·8		20·8		−·0013	−·0001	− 8·5	+ 1·0	−·0002
47	108·5	19·1		20·1		−·0020	−·0001	− 8·9	+ 1·6	−·0002
52	110·9	24·6		21·3		−·0015	−·0001	− 7·3	+ 1·2	−·0002
57	113·3	38·3		24·1		−·0013	+·0001	− 5·6	+ 0·3	+·0001
11 02	114·8	51·5	77·5	25·7	76·6	+·0009	+·0002	− 4·7	− 0·6	+·0002
07	115·0	51·3		25·0		+·0009	+·0002	− 4·7	− 0·6	+·0002
12	115·4	47·3		25·2		+·0006	+·0002	− 4·6	− 0·3	+·0002
17	116·1	47·5		24·7		+·0006	+·0001	− 4·2	− 0·4	+·0001
22	115·8	44·2		24·7		+·0004	+·0001	− 4·5	− 0·2	+·0001
27	115·0	47·8		26·2		+·0008	+·0003	− 5·2	− 0·4	+·0003
32	115·8	49·1		26·2		+·0009	+·0003	− 4·8	− 0·5	+·0003
37	115·5	42·7		25·0		+·0004	+·0002	− 5·1	− 0·2	+·0002
12 02	118·3	25·6	77·6	26·0	76·7	−·0009	+·0003	− 3·8	+ 1·0	+·0002
13 02	120·0	21·1	77·6	26·0	76·7	−·0011	+·0003	− 2·6	+ 1·2	+·0002
14 02	117·5	24·1	77·4	19·8	76·7	−·0007	·0000	− 5·1	+ 0·6	·0000
15 02	125·2	32·6	77·2	16·1	76·3	−·0001	−·0002	+ 1·0	− 0·1	−·0002

CAPE OF GOOD HOPE, 1844. AUGUST 1.

MEAN MONTHLY READINGS OF THE MAGNETOMETERS.

Mean Göttingen Time.	Declination.	H. F. at 57°·1.	V. F. at 57°·4.	Mean Göttingen Time.	Declination.	H. F. at 57°·1.	V. F. at 57°·4.
Hours.	Sc. Div.	Sc. Div.	Sc. Div.	Hours.	Sc. Div.	Sc. Div.	Sc. Div.
00	49·6	50·9	20·5	12	52·9	49·3	20·5
01	51·2	49·8	20·0	13	53·0	49·4	20·4
02	52·8	49·4	19·6	14	53·0	49·5	20·2
03	53·9	49·3	20·0	15	53·7	49·7	20·0
04	53·4	49·6	21·1	16	53·9	49·7	19·6
05	52·4	49·7	22·0	17	54·0	49·7	19·5
06	52·3	49·2	21·8	18	55·1	49·7	18·5
07	52·5	48·6	22·0	19	56·0	50·6	18·6
08	52·3	48·6	21·8	20	53·9	51·4	20·8
09	52·5	48·6	21·3	21	51·2	51·8	22·4
10	52·4	48·7	21·4	22	49·4	51·8	22·3
11	52·7	48·8	20·8	23	48·8	51·3	21·5

Coefficients (A), Approximate Absolute Values (B).

(A) Declin. $a = 0'\cdot751$

H. F. $k = \cdot00035$, $q = \cdot00027$

V. F. $k = \cdot00017$, $q = \cdot00005$

(B) Approx. $\psi = 29° 05'$, $X = 4\cdot46$, $Y = 6\cdot00$, $\theta = -53° 18'$, $\phi = 7\cdot50$

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
1 04 02	55·2	55·2	55·2	21·1	56·0	+·0014	−·0001	+ 1·4	− 2·5	+·0004
05 02	53·2	52·8	55·2	26·1	55·8	+·0006	+·0006	+ 0·6	0·0	+·0006
06 02	51·9	45·3	55·2	33·9	55·8	−·0019	+·0020	− 0·3	+ 6·4	+·0006
22	50·0	43·7		37·2		−·0024	+·0025	− 1·8	+ 8·1	+·0007
27	50·2	43·6		37·2		−·0024	+·0025	− 1·7	+ 8·1	+·0007
32	49·7	43·3		38·6		−·0025	+·0028	− 2·0	+ 8·7	+·0009
37	48·5	43·0		38·9		−·0026	+·0028	− 2·9	+ 8·9	+·0009
42	48·3	43·0		38·9		−·0026	+·0028	− 3·1	+ 8·9	+·0009
47	48·5	43·0		37·9		−·0025	+·0026	− 3·0	+ 8·4	+·0008
52	49·5	42·6		37·2		−·0027	+·0025	− 2·3	+ 8·6	+·0006
57	50·0	42·4		37·0		−·0027	+·0025	− 1·9	+ 8·6	+·0006
07 02	50·1	42·3	55·2	37·0	56·1	−·0027	+·0025	− 1·8	+ 8·6	+·0006
07	50·0	41·8		36·9		−·0029	+·0025	− 1·9	+ 8·9	+·0006
12	49·6	41·3		36·9		−·0031	+·0025	− 2·2	+ 9·2	+·0005
17	49·7	41·0		37·7		−·0032	+·0026	− 2·0	+ 9·6	+·0005
22	48·6	41·1		38·6		−·0032	+·0028	− 2·9	+ 9·9	+·0007
27	47·1	41·5		38·9		−·0030	+·0028	− 4·0	+ 9·6	+·0007
32	46·7	41·9		38·9		−·0029	+·0028	− 4·3	+ 9·4	+·0008
37	46·1	42·0		38·9		−·0028	+·0028	− 4·7	+ 9·2	+·0008
42	46·0	42·3		38·8		−·0027	+·0028	− 4·8	+ 9·1	+·0008
47	45·2	42·5		38·4		−·0026	+·0028	− 5·3	+ 8·9	+·0009
52	45·4	42·3		38·1		−·0027	+·0027	− 5·2	+ 8·9	+·0008
57	45·2	43·0		38·0		−·0025	+·0027	− 5·3	+ 8·6	+·0008
08 02	44·8	42·9	55·4	37·5	56·2	−·0025	+·0026	− 5·6	+ 8·4	+·0008
17	42·5	43·4		38·3		−·0023	+·0028	− 7·4	+ 8·4	+·0010
32	43·0	44·5		34·8		−·0019	+·0022	− 7·1	+ 6·8	+·0007
47	45·6	44·0		31·6		−·0021	+·0017	− 5·2	+ 6·3	+·0003
09 02	46·3	42·6	55·3	32·0	56·0	−·0026	+·0018	− 4·7	+ 7·3	+·0002
17	47·3	44·3		29·2		−·0020	+·0013	− 3·9	+ 5·4	+·0001
32	47·2	44·9		28·6		−·0019	+·0011	− 3·9	+ 4·9	0000
10 02	47·2	43·6	55·1	34·3	55·6	−·0024	+·0021	− 3·9	+ 7·4	+·0005
11 02	49·4	45·7	54·9	26·5	55·5	−·0017	+·0009	− 2·5	+ 4·3	·0000

1844.
St. Helena.

August 1.

ST. HELENA, 1844. AUGUST 1.

MEAN MONTHLY READINGS OF THE MAGNETOMETERS.

Mean Göttingen Time.	Declination.	H. F. at 60°·5.	V. F. at 60°·4.	Mean Göttingen Time.	Declination.	H. F. at 60°·5.	V. F. at 60°·4.
Hours.	Sc. Div.	Sc. Div.	Sc. Div.	Hours.	Sc. Div.	Sc. Div.	Sc. Div.
00	94·3	72·3	46·7	12	96·1	65·1	46·5
01	94·2	72·0	46·9	13	96·1	65·1	46·5
02	94·1	71·4	47·1	14	96·2	65·4	46·4
03	95·4	69·7	47·2	15	96·2	65·5	46·4
04	96·3	68·4	47·3	16	96·4	66·0	46·3
05	96·1	67·0	47·3	17	96·5	66·0	46·3
06	95·4	66·1	47·2	18	96·9	66·1	46·1
07	95·3	65·3	47·2	19	98·0	66·4	46·0
08	95·5	64·7	47·1	20	99·5	66·2	46·1
09	95·6	64·5	47·0	21	98·1	67·0	46·1
10	95·7	64·5	46·7	22	96·3	68·9	46·4
11	96·0	64·5	46·7	23	95·0	70·7	46·7

Coefficients (A), Approximate Absolute Values (B).

(A)
- Declin. $a = 0'\cdot712$
- H. F. $h = \cdot00021$, $q = \cdot00028$
- V. F. $k = \cdot00083$, $q = \cdot00002$

(B) Approx.
- $\psi = 23°\ 20'$
- X = 5·57
- Y = 2·23
- $\theta = -\ 21°\ 51'$
- $\phi = 6\cdot00$

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours. $\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
1 05 02	94·5	69·1	62·8	47·3	62·3	+·0011	·0000	− 1·1	− 1·3	+·0010
12	93·6	66·5		47·2		+·0006	−·0001	− 1·7	− 0·8	+·0005
17	93·2	65·1		47·1		+·0003	−·0002	− 1·9	− 0·6	+·0002
22	93·1	64·5		47·1		+·0002	−·0002	− 2·0	− 0·5	+·0001
27	92·6	64·1		47·1		+·0001	−·0002	− 2·2	− 0·3	+·0001
32	92·5	63·9		47·0		+·0001	−·0003	− 2·3	− 0·5	·0000
37	92·5	62·9		47·0		−·0001	−·0002	− 2·2	− 0·1	−·0001
42	92·5	62·0		47·0		−·0003	−·0002	− 2·2	+ 0·1	−·0003
47	92·5	61·9		47·0		−·0003	−·0002	− 2·2	+ 0·1	−·0003
52	92·6	61·4		46·9		−·0004	−·0003	− 2·0	+ 0·1	−·0004
57	92·6	59·6		46·9		−·0007	−·0003	− 2·0	+ 0·5	−·0006
06 02	92·6	57·9	62·8	46·9	62·3	−·0011	−·0003	− 2·0	+ 0·9	−·0010
07	92·3	56·3		46·9		−·0014	−·0003	− 2·2	+ 1·3	−·0013
12	91·9	55·5		46·6		−·0016	−·0005	− 2·5	+ 1·3	−·0015
17	91·5	54·9		46·6		−·0017	−·0005	− 2·7	+ 1·4	−·0015
22	91·6	54·1		46·6		−·0019	−·0005	− 2·7	+ 1·7	−·0017
27	91·6	54·1		46·6		−·0019	−·0005	− 2·7	+ 1·7	−·0017
32	92·8	54·7		46·6		−·0017	−·0005	− 1·8	+ 1·4	−·0015
37	92·9	53·0		46·6		−·0021	−·0005	− 1·7	+ 1·9	−·0019
42	92·5	51·9		46·6		−·0023	−·0005	− 2·0	+ 2·1	−·0021
47	92·5	51·9		46·6		−·0023	−·0005	− 2·0	+ 2·1	−·0021
52	92·7	51·7		46·6		−·0023	−·0005	− 1·8	+ 2·1	−·0021
57	93·2	51·4		46·7		−·0024	−·0004	− 1·5	+ 2·4	−·0021
07 02	93·5	51·1	62·4	46·7	62·7	−·0025	−·0004	− 1·3	+ 2·5	−·0022
07	93·5	50·9		46·7		−·0025	−·0004	− 1·3	+ 2·5	−·0022
12	93·3	50·1		46·7		−·0027	−·0004	− 1·4	+ 2·7	−·0024
17	93·2	49·4		46·7		−·0028	−·0004	− 1·5	+ 2·8	−·0025
22	93·1	49·0		46·7		−·0029	−·0004	− 1·6	+ 2·9	−·0026
27	92·6	49·0		46·7		−·0028	−·0004	− 2·0	+ 2·8	−·0025
32	92·3	49·3		46·7		−·0028	−·0004	− 2·2	+ 2·8	−·0025
37	92·0	49·2		46·7		−·0028	−·0003	− 2·4	+ 2·9	−·0025
42	91·9	49·5		46·7		−·0027	−·0003	− 2·5	+ 2·8	−·0024
47	91·3	49·9		46·7		−·0026	−·0003	− 2·9	+ 2·7	−·0023
52	91·1	49·7		46·7		−·0027	−·0003	− 3·1	+ 2·8	−·0024
57	91·0	50·1		46·7		−·0026	−·0003	− 3·2	+ 2·7	−·0023
08 02	90·9	49·9	62·3	46·7	63·0	−·0026	−·0003	− 3·2	+ 2·7	−·0023
07	91·0	50·1		46·7		−·0026	−·0003	− 3·2	+ 2·7	−·0023
12	90·4	50·0		46·7		−·0026	−·0003	− 3·7	+ 2·7	−·0023
17	90·1	50·4		46·7		−·0025	−·0003	− 3·9	+ 2·6	−·0022
22	89·9	51·0		46·7		−·0024	−·0003	− 4·0	+ 2·5	−·0021

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OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
						$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. ° -	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
1 08 27	89·7	51·7		46·7		−·0022	−·0003	− 4·2	+ 2·2	−·0020
32	89·7	52·1		46·7		−·0022	−·0003	− 4·2	+ 2·2	−·0020
37	90·0	52·4		46·7		−·0021	−·0003	− 4·0	+ 2·1	−·0019
42	90·3	52·9		46·7		−·0020	−·0003	− 3·8	+ 2·0	−·0018
47	90·9	52·1		46·7		−·0022	−·0003	− 3·3	+ 2·2	−·0020
52	91·2	51·9		46·7		−·0022	−·0003	− 3·1	+ 2·2	−·0020
57	91·9	51·1		46·7		−·0024	−·0003	− 2·6	+ 2·5	−·0021
09 02	92·0	50·5	62·1	46·7	62·7	−·0025	−·0003	− 2·5	+ 2·6	−·0022
07	92·1	50·8		46·7		−·0024	−·0003	− 2·5	+ 2·5	−·0021
12	92·3	51·6		46·7		−·0023	−·0002	− 2·3	+ 2·5	−·0020
17	92·9	52·8		46·7		−·0020	−·0002	− 1·9	+ 2·1	−·0018
22	93·0	53·1		46·7		−·0020	−·0002	− 1·8	+ 2·1	−·0018
27	93·1	53·9		46·7		−·0018	−·0002	− 1·8	+ 1·9	−·0016
32	93·1	54·8		46·7		−·0016	−·0001	− 1·8	+ 1·8	−·0014
37	93·1	54·9		46·7		−·0016	−·0001	− 1·8	+ 1·8	−·0014
42	93·0	54·1		46·7		−·0018	−·0001	− 1·9	+ 2·0	−·0016
47	93·1	54·0		46·7		−·0018	−·0001	− 1·8	+ 2·0	−·0016
52	93·1	53·3		46·7		−·0019	·0000	− 1·8	+ 2·2	−·0017
57	93·1	52·5		46·7		−·0021	·0000	− 1·8	+ 2·5	−·0018
10 02	93·1	52·0	62·0	46·7	62·7	−·0022	·0000	− 1·8	+ 2·6	−·0019
07	93·2	51·5		46·7		−·0023	·0000	− 1·8	+ 2·7	−·0020
12	93·2	51·7		46·7		−·0023	·0000	− 1·8	+ 2·7	−·0020
17	93·3	51·6		46·7		−·0023	·0000	− 1·8	+ 2·7	−·0020
22	93·3	52·0		46·7		−·0022	·0000	− 1·8	+ 2·6	−·0019
27	93·5	52·1		46·7		−·0022	·0000	− 1·6	+ 2·6	−·0019
32	93·4	52·9		46·7		−·0020	·0000	− 1·8	+ 2·4	−·0017
37	93·4	53·2		46·7		−·0020	·0000	− 1·8	+ 2·4	−·0017
42	93·4	53·1		46·7		−·0020	·0000	− 1·8	+ 2·4	−·0017
47	93·2	53·2		46·7		−·0020	·0000	− 1·9	+ 2·4	−·0017
52	93·3	54·1		46·7		−·0018	·0000	− 1·9	+ 2·1	−·0016
57	93·3	55·1		46·7		−·0016	·0000	− 1·9	+ 1·9	−·0014
11 02	93·2	55·9	61·9	46·3	62·4	−·0014	−·0003	− 2·0	+ 1·3	−·0013
07	93·2	55·3		46·3		−·0016	−·0003	− 2·0	+ 1·5	−·0014
12	93·2	55·1		46·3		−·0016	−·0003	− 2·0	+ 1·5	−·0014
17	93·2	54·9		46·3		−·0017	−·0003	− 2·0	+ 1·7	−·0015
22	93·2	54·9		46·3		−·0017	−·0003	− 2·0	+ 1·7	−·0015
27	93·3	54·9		46·3		−·0017	−·0003	− 1·9	+ 1·7	−·0015
32	93·4	54·9		46·3		−·0017	−·0003	− 1·8	+ 1·7	−·0015
37	93·4	54·7		46·3		−·0018	−·0003	− 1·9	+ 1·8	−·0016
42	93·3	54·3		46·3		−·0019	−·0003	− 2·0	+ 1·9	−·0017
47	93·4	53·8		46·3		−·0020	−·0003	− 1·9	+ 2·0	−·0018
52	93·4	53·2		46·3		−·0021	−·0002	− 1·9	+ 2·2	−·0019
57	93·7	53·1		46·3		−·0021	−·0002	− 1·7	+ 2·2	−·0019
12 02	93·9	53·2	61·9	46·3	62·2	−·0021	−·0002	− 1·5	+ 2·2	−·0019
07	94·0	54·0		46·3		−·0020	−·0002	− 1·5	+ 2·1	−·0018
12	94·0	54·9		46·3		−·0018	−·0002	− 1·5	+ 1·9	−·0016
17	94·0	55·1		46·3		−·0017	−·0002	− 1·5	+ 1·8	−·0015
22	94·1	55·7		46·3		−·0016	−·0002	− 1·4	+ 1·7	−·0014
27	94·1	56·0		46·3		−·0016	−·0002	− 1·4	+ 1·7	−·0014
32	94·1	56·2		46·3		−·0015	−·0002	− 1·4	+ 1·5	−·0013
37	94·1	56·1		46·3		−·0015	−·0002	− 1·4	+ 1·5	−·0013
42	94·1	56·0		46·3		−·0016	−·0002	− 1·4	+ 1·7	−·0014
47	94·0	55·8		46·3		−·0016	−·0002	− 1·5	+ 1·7	−·0014
52	94·0	—		—		—	—	− 1·5	—	—
57	94·3	55·3		46·3		−·0017	−·0002	− 1·3	+ 1·8	−·0015
13 02	94·8	55·5	61·7	46·4	61·9	−·0017	−·0001	− 0·9	+ 1·9	−·0015
07	95·2	55·7		46·4		−·0016	−·0001	− 0·6	+ 1·8	−·0014
12	95·2	55·5		46·4		−·0017	−·0001	− 0·6	+ 1·9	−·0015
17	95·0	55·6		46·4		−·0017	−·0001	− 0·8	+ 1·9	−·0015
22	95·1	55·8		46·4		−·0017	−·0001	− 0·7	+ 1·9	−·0015
27	94·8	55·9		46·4		−·0016	−·0001	− 0·9	+ 1·8	−·0014
32	94·7	56·2		46·4		−·0016	−·0001	− 1·0	+ 1·8	−·0014

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OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
						$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta \psi$	$\Delta \theta$	$\frac{\Delta \phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
1 13 37	94·5	56·3		46·4		−·0016	·0000	− 1·2	+ 1·9	−·0014
42	94·5	56·5		46·4		−·0015	·0000	− 1·2	+ 1·8	−·0013
47	94·5	56·9		46·4		−·0015	·0000	− 1·2	+ 1·8	−·0013
52	94·5	56·9		46·4		−·0015	·0000	− 1·2	+ 1·8	−·0013
57	94·7	57·0		46·4		−·0015	·0000	− 1·1	+ 1·8	−·0013
14 02	94·9	56·9	61·6	46·4	61·8	−·0015	·0000	− 0·9	+ 1·8	−·0013
07	94·5	56·0		46·4		−·0017	·0000	− 1·2	+ 2·0	−·0015
12	94·5	56·8		46·4		−·0015	·0000	− 1·2	+ 1·8	−·0013
17	94·7	57·1		46·4		−·0015	·0000	− 1·1	+ 1·8	−·0013
22	94·6	57·3		46·4		−·0014	·0000	− 1·1	+ 1·7	−·0012
27	94·8	57·5		46·4		−·0014	·0000	− 1·0	+ 1·7	−·0012
32	94·8	57·4		46·4		−·0014	·0000	− 1·0	+ 1·7	−·0012
37	94·7	57·4		46·4		−·0014	·0000	− 1·1	+ 1·7	−·0012
42	94·7	57·4		46·4		−·0014	·0000	− 1·1	+ 1·7	−·0012
47	94·0	57·7		46·4		−·0014	·0000	− 1·5	+ 1·7	−·0012
52	93·9	58·0		46·4		−·0013	·0000	− 1·6	+ 1·5	−·0011
57	93·9	58·2		46·4		−·0013	·0000	− 1·6	+ 1·5	−·0011
15 02	93·9	58·5	61·5	46·4	61·8	−·0012	·0000	− 1·6	+ 1·4	−·0010
07	93·9	58·5		46·4		−·0012	·0000	− 1·6	+ 1·4	−·0010
12	94·0	58·5		46·4		−·0012	·0000	− 1·5	+ 1·4	−·0010
17	94·1	58·6		46·4		−·0012	·0000	− 1·5	+ 1·4	−·0010
22	94·3	58·8		46·4		−·0012	·0000	− 1·4	+ 1·4	−·0010
27	94·4	59·0		46·4		−·0011	·0000	− 1·3	+ 1·3	−·0010
32	94·7	59·7		46·4		−·0010	·0000	− 1·1	+ 1·2	−·0009
37	94·8	60·0		46·4		−·0010	+·0001	− 1·1	+ 1·3	−·0009
42	94·9	60·2		46·4		−·0009	+·0001	− 1·0	+ 1·2	−·0008
47	94·9	60·6		46·4		−·0009	+·0001	− 1·0	+ 1·2	−·0008
52	94·9	60·9		46·2		−·0008	−·0001	− 1·1	+ 0·8	−·0007
57	94·8	61·0		46·2		−·0008	−·0001	− 1·1	+ 0·8	−·0007
16 02	94·8	61·2	61·4	46·2	61·5	−·0008	−·0001	− 1·1	+ 0·8	−·0007
07	94·9	61·2		46·2		−·0008	−·0001	− 1·1	+ 0·8	−·0007
12	95·0	61·3		46·2		−·0008	−·0001	− 1·0	+ 0·8	−·0007
17	95·1	61·3		46·2		−·0008	−·0001	− 0·9	+ 0·8	−·0007
22	95·0	61·4		46·2		−·0008	−·0001	− 1·0	+ 0·8	−·0007
27	95·0	61·6		46·2		−·0007	−·0001	− 1·0	+ 0·7	−·0006
32	94·9	61·5		46·2		−·0007	−·0001	− 1·1	+ 0·7	−·0006
37	95·0	61·5		46·2		−·0008	−·0001	− 1·1	+ 0·8	−·0007
42	94·8	61·3		46·2		−·0008	−·0001	− 1·2	+ 0·8	−·0007
47	94·8	61·4		46·2		−·0008	−·0001	− 1·2	+ 0·8	−·0007
52	94·8	61·4		46·2		−·0008	−·0001	− 1·2	+ 0·8	−·0007
57	94·7	61·3		46·2		−·0008	−·0001	− 1·3	+ 0·8	−·0007
17 02	94·7	61·2	61·0	46·1	61·4	−·0009	−·0002	− 1·3	+ 0·8	−·0008
07	94·7	61·2		46·1		−·0009	−·0002	− 1·3	+ 0·8	−·0008
12	94·8	61·5		46·1		−·0008	−·0002	− 1·3	+ 0·7	−·0007
17	95·2	61·2		46·1		−·0009	−·0002	− 1·0	+ 0·8	−·0008
22	95·6	61·0		46·0		−·0009	−·0002	− 0·7	+ 0·8	−·0008
27	95·7	61·1		46·0		−·0009	−·0002	− 0·7	+ 0·8	−·0008
32	95·4	61·3		46·0		−·0009	−·0002	− 0·9	+ 0·8	−·0008
37	95·4	61·2		46·0		−·0009	−·0002	− 0·9	+ 0·8	−·0008
42	95·4	61·1		46·0		−·0009	−·0002	− 1·0	+ 0·8	−·0008
47	95·5	61·1		46·0		−·0009	−·0002	− 0·9	+ 0·8	−·0008
52	95·2	61·4		46·0		−·0009	−·0001	− 1·1	+ 0·9	−·0008
57	95·2	61·6		46·0		−·0008	−·0001	− 1·2	+ 0·8	−·0007
18 02	95·4	61·7	60·9	45·8	61·4	−·0008	−·0003	− 1·1	+ 0·6	−·0007
07	95·8	61·8		45·8		−·0008	−·0003	− 0·8	+ 0·6	−·0007
12	95·8	62·0		45·8		−·0008	−·0003	− 0·9	+ 0·6	−·0007
17	95·9	62·2		45·8		−·0007	−·0003	− 0·9	+ 0·5	−·0006
22	96·2	62·6		45·8		−·0007	−·0003	− 0·8	+ 0·5	−·0006
27	96·2	63·0		45·8		−·0006	−·0003	− 0·8	+ 0·3	−·0006
32	96·3	63·3		46·1		−·0005	·0000	− 0·8	+ 0·6	−·0004
37	96·7	63·6		46·1		−·0005	+·0001	− 0·6	+ 0·7	−·0004
42	96·9	63·9		46·0		−·0004	·0000	− 0·5	+ 0·5	−·0003

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OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta \psi$	$\Delta \theta$	$\frac{\Delta \phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
1 18 47	97·0	64·0		46·0		−·0004	·0000	− 0·5	+ 0·5	−·0003
52	97·1	64·2		46·0		−·0004	·0000	− 0·5	+ 0·5	−·0003
57	97·2	64·3		46·0		−·0003	·0000	− 0·5	+ 0·3	−·0003
19 02	97·3	64·5	60·9	45·6	61·4	−·0003	−·0003	− 0·5	0·0	−·0003
07	97·6	64·6		45·9		−·0003	−·0001	− 0·4	+ 0·2	−·0003
12	97·9	64·3		45·9		−·0003	−·0001	− 0·3	+ 0·2	−·0003
17	97·9	64·4		45·9		−·0003	−·0001	− 0·4	+ 0·2	−·0003
22	97·9	64·2		45·9		−·0003	−·0001	− 0·4	+ 0·2	−·0003
27	98·0	64·1		45·9		−·0003	−·0001	− 0·4	+ 0·2	−·0003
32	98·8	64·1		45·9		−·0003	−·0001	0·0	+ 0·2	−·0003
37	99·5	64·0		46·0		−·0004	−·0001	+ 0·4	+ 0·3	−·0004
42	100·0	63·8		46·0		−·0004	−·0001	+ 0·7	+ 0·3	−·0004
47	100·5	63·8		46·0		−·0004	−·0001	+ 1·0	+ 0·3	−·0004
52	100·5	63·7		46·0		−·0004	−·0001	+ 0·8	+ 0·3	−·0004
57	100·7	63·8		46·0		−·0004	−·0001	+ 0·9	+ 0·3	−·0004
20 02	100·5	63·8	61·0	46·0	61·4	−·0004	−·0001	+ 0·7	+ 0·3	−·0004
07	100·2	63·6		46·0		−·0004	−·0001	+ 0·6	+ 0·3	−·0004
12	100·0	63·7		46·4		−·0004	+·0003	+ 0·5	+ 0·8	−·0003
17	99·7	63·8		46·3		−·0004	+·0002	+ 0·4	+ 0·7	−·0003
22	99·8	63·8		46·3		−·0004	+·0002	+ 0·6	+ 0·7	−·0003
27	99·8	63·9		46·3		−·0004	+·0002	+ 0·6	+ 0·7	−·0003
32	99·9	63·9		46·3		−·0004	+·0002	+ 0·8	+ 0·7	−·0003
37	99·9	63·7		46·5		−·0005	+·0003	+ 0·8	+ 0·9	−·0004
42	99·4	64·0		46·4		−·0004	+·0003	+ 0·6	+ 0·8	−·0003
47	99·2	64·1		46·4		−·0004	+·0003	+ 0·5	+ 0·8	−·0003
52	99·0	64·1		46·4		−·0004	+·0003	+ 0·5	+ 0·8	−·0003
57	98·8	64·3		46·5		−·0004	+·0003	+ 0·4	+ 0·8	−·0003
21 02	98·7	64·6	61·0	46·5	61·0	−·0004	+·0003	+ 0·4	+ 0·8	−·0003
22 02	95·3	64·1	61·0	46·5	60·9	−·0009	+·0003	− 0·7	+ 1·4	−·0007

VAN DIEMEN ISLAND, 1844. AUGUST 2, 3, 9, and 10.

1844.
Van Diemen Island.

August 2, 3, & 9.

For Mean Monthly Readings, *see* page 365.

2 21 02	72·2	111·4	45·2	119·3	44·8	−·0001	−·0004	− 2·9	− 0·3	−·0004
22 02	76·8	108·0	45·6	127·6	44·9	−·0007	−·0001	+ 0·5	+ 0·7	−·0002
23 02	77·0	106·7	45·8	128·2	45·2	−·0010	·0000	+ 0·8	+ 1·1	−·0001
3 00 02	67·0	107·7	45·7	119·4	45·2	−·0007	−·0003	− 5·4	+ 0·4	−·0003
12	65·2	108·8		119·2		−·0005	−·0003	− 6·5	+ 0·2	−·0003
17	66·3	109·1		117·4		−·0005	−·0003	− 5·6	+ 0·2	−·0003
22	67·0	108·8		117·9		−·0006	−·0003	− 5·0	+ 0·3	−·0003
27	68·1	108·1		120·5		−·0007	−·0002	− 4·2	+ 0·5	−·0003
32	69·0	107·3		122·3		−·0009	−·0001	− 3·4	+ 0·9	−·0002
37	70·2	106·3		120·2		−·0012	−·0002	− 2·5	+ 1·1	−·0003
42	71·1	106·1		126·6		−·0012	+·0001	− 1·8	+ 1·4	·0000
47	71·2	105·6		128·3		−·0014	+·0001	− 1·6	+ 1·6	−·0001
52	71·4	105·4		129·4		−·0014	+·0002	− 1·3	+ 1·7	·0000
57	71·8	105·6		129·6		−·0014	+·0002	− 1·0	+ 1·7	·0000
01 02	71·9	106·1	46·0	129·9	45·4	−·0013	+·0002	− 0·8	+ 1·6	·0000
9 00 02	78·9	107·0	47·4	124·8	46·9	−·0005	+·0002	+ 3·1	+ 0·8	+·0001
01 02	72·5	106·6	47·5	122·9	47·0	−·0009	+·0003	− 0·4	+ 1·3	+·0002
02 02	66·2	101·5	47·5	131·0	47·0	−·0016	+·0005	− 5·2	+ 2·3	+·0003
07	67·3	102·1		130·4		−·0015	+·0005	− 4·4	+ 2·2	+·0003
12	67·9	103·0		127·3		−·0013	+·0004	− 4·0	+ 1·8	+·0002
17	67·2	103·2		125·7		−·0013	+·0003	− 4·5	+ 1·7	+·0001
22	66·7	102·5		125·0		−·0015	+·0003	− 4·9	+ 1·9	+·0001
27	66·3	101·6		125·7		−·0017	+·0003	− 5·1	+ 2·2	+·0001
32	66·9	102·8		124·4		−·0014	+·0003	− 4·7	+ 1·8	+·0001
37	66·2	103·0		123·5		−·0013	+·0003	− 5·1	+ 1·7	+·0001

1844.
Van Diemen Island.

August 9.

OBSERVATIONS OF THE MAGNETOMETERS. The Declination was observed 2m. before, and the V. F. 1m. after the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
9 02 42	66·6	103·4		123·5		−·0012	+·0003	− 4·9	+ 1·6	+·0001
47	65·5	106·1		119·8		−·0006	+·0001	− 5·6	+ 0·8	·0000
52	64·3	106·5		112·7		−·0006	−·0001	− 6·5	+ 0·5	−·0002
57	62·6	105·5		110·8		−·0008	−·0002	− 7·7	+ 0·7	−·0003
03 02	62·1	102·5	47·6	114·4	47·1	−·0015	·0000	− 8·0	+ 1·6	−·0002
07	66·9	104·4		122·4		−·0011	+·0003	− 4·7	+ 1·5	+·0002
12	69·6	102·4		122·1		−·0015	+·0003	− 2·7	+ 1·9	+·0001
17	69·9	100·4		124·6		−·0020	+·0004	− 2·6	+ 2·6	+·0001
22	68·9	101·1		127·0		−·0018	+·0004	− 3·3	+ 2·4	+·0002
27	66·9	102·2		126·7		−·0015	+·0004	− 4·9	+ 2·0	+·0002
32	66·8	103·7		123·3		−·0012	+·0003	− 4·9	+ 1·6	+·0001
37	65·4	103·6		121·9		−·0012	+·0003	− 6·0	+ 1·6	+·0001
42	65·7	104·6		121·2		−·0010	+·0002	− 5·8	+ 1·3	+·0001
47	66·2	105·2		119·1		−·0008	+·0002	− 5·5	+ 1·1	+·0001
52	66·2	104·8		117·7		−·0009	+·0001	− 5·5	+ 1·1	·0000
57	66·8	104·4		119·2		−·0010	+·0002	− 5·1	+ 1·3	+·0001
04 02	67·8	103·6	48·0	119·7	47·2	−·0012	+·0002	− 4·4	+ 1·5	+·0001
07	67·7	102·6		120·6		−·0014	+·0002	− 4·6	+ 1·7	·0000
12	67·3	103·0		121·3		−·0013	+·0003	− 4·9	+ 1·7	+·0001
17	68·6	103·6		121·7		−·0012	+·0003	− 4·0	+ 1·6	+·0001
22	68·9	—		—		—	—	− 3·9	—	—
05 02	72·8	104·7	48·0	121·6	47·6	−·0009	+·0003	− 1·5	+ 1·3	+·0002
06 02	76·7	106·9	48·0	117·7	47·6	−·0006	+·0002	+ 0·4	+ 0·9	+·0001
07 02	78·0	108·0	48·0	115·3	47·4	−·0004	+·0002	+ 1·5	+ 0·7	+·0001
08 02	77·8	107·4	47·5	112·0	47·2	−·0006	·0000	+ 0·9	+ 0·7	−·0001
09 02	78·0	107·1	47·4	112·0	47·2	−·0006	+·0001	+ 1·5	+ 0·8	·0000
10 02	76·5	110·0	47·4	106·0	47·0	−·0002	−·0001	+ 0·4	+ 0·1	−·0001
11 02	76·8	109·0	47·2	111·3	46·8	−·0004	+·0001	+ 1·5	+ 0·5	·0000
12 02	77·3	106·3	47·4	117·5	46·8	−·0009	+·0003	+ 2·6	+ 1·3	+·0002
13 02	72·3	107·8	47·3	104·4	46·8	−·0003	−·0002	+ 0·1	+ 0·1	−·0002
07	73·2	108·0		106·1		−·0002	−·0002	+ 0·6	0·0	−·0002
12	74·2	108·1		108·8		−·0001	−·0001	+ 1·3	0·0	−·0001
17	75·6	108·2		108·6		−·0001	−·0001	+ 2·2	0·0	−·0001
22	74·9	107·7		109·1		−·0002	−·0001	+ 1·7	+ 0·1	−·0001
27	73·8	107·1		107·0		−·0003	−·0002	+ 0·8	+ 0·1	−·0002
32	73·2	107·3		108·2		−·0002	−·0001	+ 0·4	+ 0·1	−·0001
37	73·1	—		—		—	—	+ 0·3	—	—
14 02	74·9	106·2	47·6	110·8	46·9	−·0002	−·0001	+ 1·3	+ 0·1	−·0001
15 02	76·5	104·4	47·7	114·6	47·1	−·0003	·0000	+ 0·8	+ 0·3	·0000
16 02	78·2	102·5	48·0	118·2	47·2	−·0006	·0000	+ 0·1	+ 0·7	−·0001
17 02	80·4	104·9	48·0	116·9	47·4	−·0004	·0000	+ 0·3	+ 0·4	·0000
18 02	78·6	107·3	48·0	114·4	47·8	−·0001	−·0001	− 1·3	0·0	−·0001
19 02	78·2	107·8	48·2	114·4	47·8	−·0002	·0000	− 1·3	+ 0·2	·0000
20 02	77·8	106·8	48·4	115·6	48·0	−·0004	+·0001	− 0·2	+ 0·5	·0000
21 02	70·5	103·4	48·7	110·8	48·0	−·0011	·0000	− 4·2	+ 1·2	−·0001
07	67·0	102·8		111·9		−·0012	·0000	− 6·7	+ 1·3	−·0001
12	64·7	103·5		111·2		−·0010	·0000	− 8·2	+ 1·1	−·0001
17	63·9	106·0		109·3		−·0005	−·0001	− 8·8	+ 0·4	−·0001
22	65·4	107·1		108·3		−·0002	−·0001	− 7·7	+ 0·1	−·0001
27	66·5	107·4		105·3		−·0001	−·0002	− 7·0	− 0·1	−·0002
32	67·0	106·8		105·6		−·0002	−·0002	− 6·5	0·0	−·0002
37	67·6	105·8		107·3		−·0005	−·0001	− 6·1	+ 0·4	−·0001
42	68·1	105·6		108·8		−·0005	−·0001	− 5·8	+ 0·4	−·0001
47	69·5	105·5		111·6		−·0005	·0000	− 4·8	+ 0·5	−·0001
52	71·2	105·0		113·4		−·0006	+·0001	− 3·4	+ 0·8	·0000
57	72·4	105·4		116·2		−·0005	+·0002	− 2·6	+ 0·8	+·0001
22 02	74·6	104·8	49·0	118·1	48·2	−·0006	+·0003	− 1·1	+ 1·0	+·0002
07	76·3	104·0		119·0		−·0008	+·0003	+ 0·1	+ 1·2	+·0002
12	76·0	103·4		119·6		−·0010	+·0003	0·0	+ 1·4	+·0002
17	75·9	103·0		118·9		−·0011	+·0003	− 0·1	+ 1·5	+·0002
22	75·0	103·0		121·2		−·0010	+·0004	− 0·7	+ 1·5	+·0003

1844. Van Diemen Island.

August 9—10.

OBSERVATIONS OF THE MAGNETOMETERS. The Declination was observed 2m. before, and the V. F. 1m. after the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta \psi$	$\Delta \theta$	$\frac{\Delta \phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
9 22 27	75·4	103·5		119·9		−·0009	+·0004	− 0·4	+ 1·4	+·0003
32	75·9	—		—		—	—	0·0	—	—
23 02	75·8	105·2	49·2	115·1	48·6	−·0006	+·0003	0·0	+ 1·0	+·0002
10 00 02	74·4	106·1	49·2	113·0	48·8	−·0003	+·0002	− 0·1	+ 0·5	+·0001
01 02	73·8	107·6	49·2	109·1	48·8	−·0002	+·0002	+ 0·5	+ 0·4	+·0002
02 02	73·6	107·5	49·0	112·4	48·8	+·0001	+·0002	+ 0·1	+ 0·1	+·0002
CAPE OF GOOD HOPE, 1844. AUGUST 9.										
9 04 02	53·0	44·3	59·4	26·7	59·2	−·0012	+·0010	− 0·3	+ 3·6	+·0002
05 02	50·6	42·9	59·5	28·2	59·3	−·0017	+·0012	− 1·4	+ 4·8	+·0002
06 02	50·3	42·9	59·7	26·1	59·4	−·0015	+·0008	− 1·5	+ 3·8	·0000
32	50·7	41·9		26·3		−·0018	+·0009	− 1·3	+ 4·4	−·0001
47	50·2	41·9		26·3		−·0017	+·0008	− 1·7	+ 4·1	−·0001
07 02	50·0	41·9	59·6	26·6	59·4	−·0017	+·0009	− 1·9	+ 4·3	·0000
17	49·4	42·0		26·6		−·0016	+·0009	− 2·3	+ 4·1	·0000
32	48·1	42·1		26·6		−·0016	+·0009	− 3·2	+ 4·1	·0000
47	48·2	43·0		25·9		−·0013	+·0008	− 3·1	+ 3·5	+·0001
08 02	49·0	44·1	59·5	24·9	59·2	−·0009	+·0006	− 2·5	+ 2·5	+·0001
17	49·8	44·6		22·9		−·0007	+·0003	− 2·0	+ 1·7	−·0001
32	49·0	45·5		22·3		−·0005	+·0002	− 2·6	+ 1·2	·0000
47	48·9	46·7		21·4		·0000	+·0001	− 2·7	+ 0·2	+·0001
09 02	50·1	47·2	59·3	18·8	59·0	+·0001	−·0003	− 1·8	− 0·7	−·0002
10 02	51·7	45·8	58·9	20·0	58·9	−·0005	−·0002	− 0·5	+ 0·5	−·0003
11 02	52·2	46·3	58·7	20·2	58·8	−·0004	·0000	− 0·4	+ 0·7	−·0001
12 02	54·2	49·7	58·5	16·9	58·7	+·0005	−·0005	+ 1·0	− 1·7	−·0001

1844. Cape of Good Hope.

August 9.

For Mean Monthly Readings, *see* page 369.

VAN DIEMEN ISLAND, 1844. AUGUST 22—23.										
22 00 02	76·8	108·8	48·5	113·2	48·0	+·0002	+·0001	+ 1·6	− 0·1	+·0001
01 02	75·8	109·3	48·2	112·3	47·8	−·0001	+·0001	+ 1·9	+ 0·2	+·0001
02 02	73·0	107·2	48·0	116·0	47·4	−·0002	·0000	− 0·4	+ 0·2	·0000
03 02	62·0	112·3	48·0	96·1	47·2	+·0009	−·0007	− 8·1	− 1·7	−·0005
07	—	110·5		97·6		+·0004	−·0006	—	− 1·1	−·0005
12	62·5	109·9		99·4		+·0003	−·0006	− 7·8	− 1·0	−·0005
17	63·1	108·3		103·0		−·0001	−·0004	− 7·5	− 0·3	−·0004
22	63·9	106·1		105·3		−·0006	−·0003	− 6·9	+ 0·3	−·0003
27	63·5	105·0		108·7		−·0009	−·0002	− 7·2	+ 0·8	−·0003
32	62·2	105·7		110·4		−·0007	−·0002	− 8·2	+ 0·5	−·0003
37	62·5	106·2		111·0		−·0006	−·0001	− 8·0	+ 0·5	−·0002
42	62·8	106·1		110·5		−·0006	−·0002	− 7·8	+ 0·4	−·0002
47	62·1	106·1		110·0		−·0006	−·0002	− 8·4	+ 0·4	−·0002
52	61·9	106·0		109·9		−·0007	−·0002	− 8·5	+ 0·5	−·0003
57	62·2	106·0		109·8		−·0007	−·0002	− 8·4	+ 0·5	−·0003
04 02	62·7	105·7	47·8	111·1	47·1	−·0007	−·0001	− 8·0	+ 0·7	−·0002
07	63·9	105·3		112·7		−·0008	−·0001	− 7·2	+ 0·8	−·0002
12	64·8	104·7		113·3		−·0010	−·0001	− 6·7	+ 1·0	−·0002
17	65·1	104·2		114·0		−·0011	·0000	− 6·5	+ 1·2	−·0001
22	64·8	104·0		114·1		−·0011	·0000	− 6·8	+ 1·2	−·0001
27	64·1	104·7		114·7		−·0010	·0000	− 7·3	+ 1·1	−·0001
32	65·4	105·7		114·3		−·0007	·0000	− 6·5	+ 0·8	−·0001
37	66·2	106·3		114·0		−·0006	−·0001	− 5·9	+ 0·5	−·0002
42	66·6	106·3		112·6		−·0006	−·0001	− 5·7	+ 0·5	−·0002
47	66·8	105·8		112·3		−·0007	−·0001	− 5·6	+ 0·7	−·0002
52	66·3	105·4		112·6		−·0008	−·0001	− 6·1	+ 0·8	−·0002
57	66·1	105·2		113·4		−·0008	−·0001	− 6·2	+ 0·8	−·0002

1844. Van Diemen Island.

August 22.

For Mean Monthly Readings, *see* page 365.

1844.
Van Diemen Island.

August 22—23.

OBSERVATIONS OF THE MAGNETOMETERS. The Declination was observed 2m. before, and the V. F. 1m. after the times specified.							Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.			$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °		Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
22 05 02	66·2	105·6	47·8	113·8	47·0		−·0007	−·0001	− 6·2	+ 0·7	−·0002
07	67·2	105·5		114·6			−·0008	−·0001	− 5·6	+ 0·8	−·0002
12	68·1	105·2		115·1			−·0009	·0000	− 5·0	+ 1·0	−·0001
17	68·6	105·3		115·6			−·0009	·0000	− 4·7	+ 1·0	−·0001
22	69·0	105·4		115·4			−·0008	·0000	− 4·5	+ 0·9	−·0001
27	69·3	105·4		115·3			−·0009	·0000	− 4·4	+ 1·0	−·0001
32	69·5	105·6		115·2			−·0008	·0000	− 4·3	+ 0·9	−·0001
37	69·5	106·1		113·8			−·0007	−·0001	− 4·4	+ 0·7	−·0002
42	69·4	107·1		112·4			−·0005	−·0001	− 4·6	+ 0·4	−·0001
47	69·3	107·7		111·3			−·0004	−·0002	− 4·7	+ 0·2	−·0002
52	68·6	107·8		110·0			−·0004	−·0002	− 5·3	+ 0·2	−·0002
57	68·1	107·8		108·2			−·0004	−·0003	− 5·7	+ 0·1	−·0003
06 02	68·1	107·8	47·8	108·2	46·8		−·0004	−·0003	− 5·8	+ 0·1	−·0003
07 02	72·1	106·8	47·8	111·8	46·6		−·0007	−·0001	− 2·7	+ 0·7	−·0002
08 02	74·6	105·8	47·6	116·7	46·4		−·0009	·0000	− 1·3	+ 1·0	−·0001
09 02	77·3	107·4	47·2	113·0	46·2		−·0006	−·0001	+ 1·0	+ 0·5	−·0002
10 02	75·3	108·1	47·0	111·4	46·0		−·0007	−·0002	− 0·5	+ 0·5	−·0003
11 02	75·4	111·2	46·8	110·5	45·8		·0000	−·0002	+ 0·5	− 0·2	−·0002
12 02	74·7	110·5	46·8	114·0	45·7		−·0001	−·0001	+ 0·8	0·0	−·0001
13 02	73·6	110·0	46·8	114·5	45·8		+·0001	−·0001	+ 1·0	− 0·2	−·0001
14 02	73·5	105·6	46·8	121·7	45·8		−·0005	+·0001	+ 0·3	+ 0·7	·0000
15 02	71·8	104·8	47·2	120·3	46·0		−·0003	−·0001	− 2·5	+ 0·2	−·0001
16 02	76·6	107·9	47·3	114·3	46·2		+·0005	−·0003	− 1·1	− 0·9	−·0002
17 02	77·5	108·6	47·3	116·7	46·3		+·0003	−·0003	− 1·8	− 0·7	−·0002
18 02	78·3	108·3	47·4	120·7	46·5		+·0001	−·0001	− 1·5	− 0·2	−·0001
19 02	79·7	108·8	47·5	121·3	46·7		−·0001	·0000	− 0·2	+ 0·1	·0000
20 02	79·9	106·7	47·5	124·5	46·7		−·0007	+·0002	+ 1·3	+ 1·0	+·0001
21 02	80·2	106·5	47·4	122·8	46·6		−·0007	+·0001	+ 2·7	+ 0·9	·0000
22 02	78·3	106·2	47·5	121·7	46·8		−·0006	+·0001	+ 1·5	+ 0·8	·0000
23 02	72·4	112·7	47·4	103·0	46·7		+·0008	−·0006	− 2·4	− 1·5	−·0005
23 00 02	71·5	104·7	47·3	120·8	46·7		−·0011	+·0001	− 2·1	+ 1·3	·0000
37	69·5	105·5		120·2			−·0011	+·0001	− 2·9	+ 1·3	·0000
42	71·0	106·8		119·9			−·0008	+·0001	− 1·8	+ 1·0	·0000
47	70·3	104·8		117·5			−·0013	·0000	− 2·2	+ 1·4	−·0001
52	65·3	106·0		114·0			−·0010	−·0001	− 5·7	+ 1·0	−·0002
57	60·7	112·1		108·0			+·0004	−·0003	− 8·9	− 0·8	−·0002
01 02	62·2	119·8	47·2	103·0	46·6		+·0021	−·0005	− 7·7	− 2·8	−·0002
07	71·3	120·3		97·3			+·0023	−·0007	− 1·3	− 3·2	−·0004
12	75·9	117·3		96·8			+·0016	−·0007	+ 1·9	− 2·5	−·0004
17	78·7	114·5		98·2			+·0010	−·0007	+ 4·0	− 1·8	−·0005
22	79·0	111·4		102·4			+·0003	−·0005	+ 4·2	− 0·9	−·0004
27	77·3	110·6		107·9			+·0002	−·0004	+ 2·8	− 0·7	−·0003
32	80·1	111·6		112·3			+·0004	−·0002	+ 4·9	− 0·7	−·0001
37	80·8	112·1		110·9			+·0006	−·0003	+ 5·4	− 1·0	−·0002
42	79·8	111·8		107·2			+·0006	−·0004	+ 4·6	− 1·1	−·0003
47	76·6	110·1		108·1			+·0002	−·0004	+ 2·2	− 0·7	−·0003
52	77·0	108·5		111·5			−·0001	−·0003	+ 2·5	− 0·2	−·0003
57	77·5	108·1		111·3			−·0002	−·0003	+ 2·8	− 0·1	−·0003
02 02	76·3	107·1	47·3	112·5	46·7		−·0004	−·0003	+ 2·0	− 0·1	−·0003
07	74·6	107·1		113·6			−·0004	−·0002	+ 0·8	+ 0·2	−·0002
12	73·7	108·0		113·4			−·0002	−·0002	+ 0·1	0·0	−·0002
17	73·1	108·0		112·8			−·0002	−·0002	− 0·3	0·0	−·0002
22	73·8	108·2		112·5			−·0002	−·0002	+ 0·2	0·0	−·0002
27	74·1	—		—			—	—	+ 0·4	—	—
03 02	72·7	104·3	47·4	114·9	46·7		−·0011	−·0001	− 0·5	+ 1·1	−·0002
04 02	76·2	108·8	47·0	107·6	46·4		−·0002	−·0004	+ 1·5	− 0·2	− 0004
05 02	68·8	108·1	47·0	103·4	46·4		−·0004	−·0006	− 4·4	− 0·2	−·0006
07	69·0	108·4		104·2			−·0003	−·0005	− 4·3	− 0·2	−·0005
12	68·7	108·8		104·3			−·0002	−·0005	− 4·6	− 0·3	−·0005
17	69·6	108·7		104·2			−·0003	−·0005	− 4·0	− 0·2	−·0005
22	70·6	107·7		104·4			−·0005	−·0005	− 3·3	0·0	−·0005
27	72·7	105·9		109·8			−·0009	−·0003	− 1·9	+ 0·7	−·0004

1844.
Van Diemen Island.

August 23.

OBSERVATIONS OF THE MAGNETOMETERS. The Declination was observed 2m. before, and the V. F. 1m. after the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta \psi$	$\Delta \theta$	$\frac{\Delta \phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
23 05 32	73·5	106·0		113·4		−·0009	−·0002	− 1·4	+ 0·8	−·0003
37	75·0	106·7		113·3		−·0008	−·0002	− 0·5	+ 0·7	−·0003
42	75·0	107·0		112·1		−·0007	−·0003	− 0·6	+ 0·4	−·0003
47	74·7	107·2		112·0		−·0007	−·0003	− 0·8	+ 0·4	−·0003
06 02	76·6	107·1	47·0	111·5	46·4	−·0007	−·0003	+ 0·3	+ 0·4	−·0003
07 02	75·1	106·7	46·6	109·8	46·2	−·0010	−·0003	− 0·6	+ 0·8	−·0004
08 02	75·0	107·4	46·8	114·3	46·0	−·0008	−·0001	− 1·1	+ 0·8	−·0002
CAPE OF GOOD HOPE, 1844. AUGUST 22.										
22 01 00	51·2	51·5	55·7	18·3	56·1	+·0002	−·0004	0·0	− 1·0	−·0002
02 00	52·8	50·6	55·8	19·5	56·2	+·0001	−·0001	0·0	− 0·3	·0000
03 00	54·4	46·3	55·9	24·4	56·2	−·0014	+·0007	− 0·4	+ 3·5	·0000
30	54·5	45·9		25·7		−·0016	+·0008	− 0·7	+ 4·0	−·0001
04 00	53·9	45·8	55·9	25·7	56·2	−·0017	+·0007	− 0·4	+ 4·0	−·0002
30	52·6	46·3		26·0		−·0015	+·0007	− 0·2	+ 3·6	−·0001
05 00	52·2	46·0	55·9	25·6	56·2	−·0017	+·0005	− 0·2	+ 3·6	−·0003
30	51·8	46·9		24·6		−·0012	+·0004	− 0·4	+ 2·6	−·0002
06 00	53·0	46·0	55·8	23·3	56·2	−·0015	+·0002	+ 0·5	+ 2·8	−·0004
30	52·8	45·0		24·5		−·0017	+·0004	+ 0·3	+ 3·5	−·0003
07 00	52·2	45·2	55·9	24·5	56·2	−·0015	+·0004	− 0·2	+ 3·1	−·0003
30	51·3	46·6		23·3		−·0011	+·0002	− 0·8	+ 2·1	−·0003
08 00	52·0	47·2	55·9	21·6	56·2	−·0008	−·0001	− 0·2	+ 1·2	−·0003
30	52·0	47·2		21·6		−·0008	−·0001	− 0·3	+ 1·2	−·0003
09 00	52·5	47·9	55·9	20·4	56·2	−·0006	−·0002	0·0	+ 0·7	−·0003

1844.
Cape of Good Hope.

August 22.

For Mean Monthly Readings, *see* page 369.

1844.
Toronto.

August 29.

For Mean Monthly Readings, *see* page 367.

TORONTO, 1844. AUGUST 29.										
29 11 02	118·6	78·4	66·6	39·1	65·6	+·0003	+·0003	− 2·0	0·0	+·0003
12 02	125·8	54·4	66·9	41·0	65·9	−·0013	+·0004	+ 1·5	+ 1·4	+·0003
13 02	122·3	59·6	67·3	42·7	66·4	−·0005	+·0006	− 0·8	+ 0·9	+·0005
14 02	129·5	48·8	67·0	40·4	66·4	−·0014	+·0005	+ 3·5	+ 1·6	+·0004
15 02	120·0	42·9	66·7	47·1	66·0	−·0020	+·0010	− 2·8	+ 2·5	+·0008
22	140·7	41·1		14·1		−·0022	−·0010	+12·0	+ 1·0	−·0011
27	158·7	59·3		11·3		−·0007	−·0012	+24·9	− 0·4	−·0012
32	159·8	59·4		10·3		−·0007	−·0012	+25·7	− 0·4	−·0012
37	158·7	70·6		8·6		+·0003	−·0013	+24·9	− 1·4	−·0012
42	150·0	83·7		7·5		+·0014	−·0014	+18·6	− 2·4	−·0012
47	137·0	75·1		9·3		+·0007	−·0013	+ 9·2	− 1·7	−·0012
52	130·7	75·8		11·6		+·0007	−·0011	+ 4·6	− 1·5	−·0010
57	123·7	71·8		10·6		+·0004	−·0012	− 0·5	− 1·4	−·0011
16 02	116·0	65·6	66·0	14·3	66·9	−·0002	−·0009	− 6·1	+ 0·6	−·0009
07	113·4	57·6		20·3		−·0009	−·0006	− 7·9	+ 0·2	−·0006
12	116·5	55·6		26·3		−·0011	−·0002	− 5·6	+ 0·8	−·0003
17	124·2	62·6		29·9		−·0005	+·0001	− 0·1	+ 0·5	+·0001
22	124·6	63·3		29·9		−·0004	·0000	+ 0·2	+ 0·3	·0000
27	123·5	64·1		29·7		−·0003	·0000	− 0·6	+ 0·2	·0000
32	121·8	61·9		29·2		−·0005	·0000	− 1·7	+ 0·4	·0000
37	121·8	61·2		29·2		−·0006	·0000	− 1·7	+ 0·5	·0000
42	124·0	61·6		29·2		−·0006	·0000	− 0·1	+ 0·5	·0000
47	124·0	61·6		28·0		−·0006	−·0001	− 0·1	+ 0·4	−·0001
52	124·0	61·9		28·0		−·0005	−·0001	− 0·1	+ 0·3	−·0001
57	122·8	57·0		28·0		−·0010	−·0001	− 0·9	+ 0·8	−·0002
17 02	129·9	59·7	65·5	38·5	66·4	−·0007	+·0006	+ 4·2	+ 1·1	+·0005
18 02	129·8	68·2	65·0	39·0	65·0	·0000	+·0006	+ 3·3	+ 0·5	+·0006
19 02	121·9	51·9	64·5	30·7	64·8	−·0014	·0000	− 1·9	+ 1·2	−·0001
20 02	115·5	49·7	64·0	22·0	65·4	−·0017	−·0005	− 5·8	+ 1·0	−·0006

1844.
Van Diemen Island.

August 29—30.

For Mean Monthly Readings, *see* page 365.

VAN DIEMEN ISLAND, 1844. AUGUST 29—31.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
29 14 02	72·5	107·4	48·5	114·2	47·7	+·0003	+·0002	− 0·4	− 0·1	+·0002
15 02	77·8	102·9	48·8	120·5	47·8	−·0004	+·0003	+ 1·7	+ 0·8	+·0002
16 02	78·2	99·2	48·6	121·8	48·0	−·0012	+·0003	+ 0·1	+ 1·6	+·0001
17 02	82·2	105·0	48·8	114·4	48·0	−·0002	·0000	+ 1·5	+ 0·2	·0000
18 02	85·8	105·8	49·0	118·7	48·2	−·0002	+·0002	+ 3·8	+ 0·4	+·0002
19 02	87·2	105·8	49·0	123·4	48·4	−·0004	+·0004	+ 5·1	+ 0·9	+·0003
20 02	82·8	104·6	49·0	123·4	48·4	−·0008	+·0005	+ 3·3	+ 1·4	+·0004
21 02	69·9	104·7	49·0	111·5	48·4	−·0007	+·0001	− 4·7	+ 0·9	·0000
07	68·2	108·6		109·9		+·0002	·0000	− 5·8	− 0·2	·0000
12	71·9	108·6		108·1		+·0002	·0000	− 3·1	− 0·2	·0000
17	73·8	108·5		108·4		+·0002	·0000	− 1·8	− 0·2	·0000
22	75·1	108·7		107·7		+·0002	−·0001	− 0·8	− 0·3	−·0001
27	75·8	107·7		108·6		·0000	·0000	− 0·4	0·0	·0000
32	75·7	107·3		111·0		−·0001	+·0001	− 0·4	+ 0·2	+·0001
37	77·1	107·2		113·1		−·0001	+·0001	+ 0·6	+ 0·2	+·0001
42	77·8	107·5		113·2		·0000	+·0001	+ 1·1	+ 0·1	+·0001
47	78·2	107·7		114·1		+·0001	+·0002	+ 1·4	+ 0·1	+·0002
52	78·5	107·5		113·5		·0000	+·0001	+ 1·7	+ 0·1	+·0001
57	77·5	107·0		112·6		−·0001	+·0001	+ 1·0	+ 0·2	+·0001
22 02	77·2	106·5	49·2	113·1	48·4	−·0002	+·0001	+ 0·8	+ 0·3	+·0001
23 02	76·9	106·6	49·3	114·0	48·5	−·0002	+·0002	+ 0·8	+ 0·4	+·0002
30 00 02	74·8	105·6	49·0	114·8	48·4	−·0005	+·0002	+ 0·2	+ 0·8	+·0001
01 02	63·8	110·8	49·0	96·3	48·4	+·0005	−·0004	− 6·6	− 1·0	−·0003
07	61·8	111·9		94·2		+·0007	−·0004	− 8·0	− 1·2	−·0003
12	60·8	113·0		92·8		+·0010	−·0005	− 8·8	− 1·6	−·0003
17	61·0	113·0		89·3		+·0011	−·0006	− 8·6	− 1·8	−·0004
22	62·2	112·4		92·0		+·0010	−·0006	− 7·8	− 1·7	−·0004
27	64·2	110·7		95·1		+·0006	−·0005	− 6·5	− 1·2	−·0004
32	65·8	107·7		99·5		−·0001	−·0003	− 5·4	− 0·2	−·0003
37	64·9	105·3		101·8		−·0006	−·0002	− 6·0	+ 0·4	+·0002
42	64·4	103·0		107·5		−·0011	·0000	− 6·4	+ 1·2	−·0001
47	63·4	102·2		111·3		−·0012	+·0001	− 7·1	+ 1·4	·0000
52	64·2	103·2		115·6		−·0010	+·0002	− 6·5	+ 1·3	+·0001
57	65·7	104·0		115·6		−·0007	+·0002	− 5·6	+ 1·0	+·0001
02 02	66·2	104·4	49·0	115·7	48·4	−·0006	+·0002	− 5·2	+ 0·9	+·0001
07	67·5	104·8		116·8		−·0005	+·0003	− 4·3	+ 0·9	+·0002
12	68·9	104·4		117·6		−·0006	+·0003	− 3·2	+ 1·0	+·0002
17	69·9	104·2		118·2		−·0007	+·0003	− 2·5	+ 1·1	+·0002
22	70·4	103·4		119·4		−·0009	+·0004	− 2·2	+ 1·4	+·0003
27	70·8	—		—		—	—	− 1·9	—	—
03 02	70·4	103·4	49·0	117·0	48·4	−·0010	+·0003	− 2·1	+ 1·4	+·0002
04 02	71·7	106·0	49·0	109·7	48·4	−·0004	+·0001	− 1·6	+ 0·5	·0000
05 02	74·9	105·2	49·0	114·4	48·2	−·0006	+·0002	0·0	+ 0·9	+·0001
06 02	75·1	105·9	48·6	113·0	48·0	−·0006	+·0001	− 0·8	+ 0·8	·0000
07 02	75·2	108·1	48·2	107·9	47·8	−·0003	·0000	− 0·5	+ 0·3	·0000
08 02	75·4	108·1	48·2	110·1	47·8	−·0003	+·0001	− 0·8	+ 0·4	+·0001
09 02	75·5	108·0	48·2	111·8	47·8	−·0002	+·0002	− 0·3	+ 0·4	+·0002
10 02	74·9	107·6	48·0	111·5	48·0	−·0006	+·0003	− 0·8	+ 1·0	+·0002
07	74·8	107·9		112·1		−·0006	+·0003	− 0·8	+ 1·0	+·0002
12	74·7	107·4		111·2		−·0007	+·0003	− 0·8	+ 1·1	+·0002
17	74·1	107·4		110·7		−·0007	+·0002	− 1·1	+ 1·0	+·0001
22	73·8	107·2		110·8		−·0007	+·0002	− 1·3	+ 1·0	+·0001
27	73·7	107·2		111·1		−·0007	+·0002	− 1·3	+ 1·0	+·0001
32	72·9	107·3		110·2		−·0007	+·0002	− 1·8	+ 1·0	+·0001
37	72·8	107·5		110·5		−·0006	+·0002	− 1·7	+ 0·9	+·0001
42	72·8	107·8		110·7		−·0006	+·0002	− 1·6	+ 0·9	+·0001
47	73·0	107·7		109·9		−·0006	+·0002	− 1·4	+ 0·9	+·0001

OBSERVATIONS OF THE MAGNETOMETERS. The Declination was observed 2m. before, and the V. F. 1m. after the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
30 10 52	73·2	107·8		110·5		−·0005	+·0002	− 1·2	+ 0·8	+·0001
57	73·4	107·8		110·3		−·0005	+·0002	− 1·0	+ 0·8	+·0001
11 02	73·8	107·6	48·0	110·9	47·4	−·0006	+·0002	− 0·6	+ 0·9	+·0001
07	73·9	107·4		111·3		−·0006	+·0002	− 0·5	+ 0·9	+·0001
12	73·4	107·6		111·1		−·0006	+·0002	− 0·8	+ 0·9	+·0001
17	73·8	107·4		111·8		−·0006	+·0002	− 0·4	+ 0·9	+·0001
22	73·8	107·2		112·5		−·0006	+·0002	− 0·4	+ 0·9	+·0001
27	73·9	107·2		113·4		−·0006	+·0003	− 0·2	+ 1·0	+·0002
32	73·7	106·8		112·3		−·0007	+·0002	− 0·4	+ 1·0	+·0001
37	73·1	106·7		113·2		−·0007	+·0003	− 0·7	+ 1·1	+·0002
42	72·7	106·9		112·6		−·0006	+·0002	− 0·9	+ 0·9	+·0001
47	73·4	107·0		112·8		−·0006	+·0003	− 0·4	+ 1·0	+·0002
52	73·5	107·5		113·4		−·0005	+·0003	− 0·2	+ 0·9	+·0002
57	73·5	107·7		113·0		−·0004	+·0003	− 0·1	+ 0·8	+·0002
12 02	73·7	108·4	48·2	112·2	47·4	−·0003	+·0002	+ 0·1	+ 0·5	+·0001
07	73·3	107·7		111·4		−·0004	+·0002	− 0·1	+ 0·7	+·0001
12	73·0	107·9		111·6		−·0003	+·0002	− 0·3	+ 0·5	+·0001
17	73·0	107·8		111·7		−·0003	+·0002	− 0·2	+ 0·5	+·0001
22	72·7	107·5		111·5		−·0003	+·0002	− 0·3	+ 0·5	+·0001
27	72·1	106·9		111·8		−·0004	+·0002	− 0·6	+ 0·7	+·0001
32	71·5	106·9		111·0		−·0004	+·0002	− 1·0	+ 0·7	+·0001
37	71·9	106·6		111·1		−·0004	+·0002	− 0·6	+ 0·7	+·0001
42	72·0	106·0		113·3		−·0005	+·0003	− 0·5	+ 0·9	+·0002
47	72·2	105·7		112·2		−·0005	+·0003	− 0·3	+ 0·9	+·0002
52	72·5	105·2		114·6		−·0006	+·0003	+ 0·1	+ 1·0	+·0002
57	72·4	104·5		115·0		−·0007	+·0004	+ 0·1	+ 1·2	+·0003
13 02	72·4	104·0	48·8	116·4	47·8	−·0008	+·0004	+ 0·1	+ 1·3	+·0003
07	72·4	104·0		117·8		−·0008	+·0005	+ 0·1	+ 1·4	+·0004
12	72·8	102·9		119·4		−·0010	+·0005	+ 0·3	+ 1·6	+·0003
17	73·6	101·4		121·2		−·0013	+·0006	+ 0·8	+ 2·0	+·0004
22	74·0	100·5		123·9		−·0015	+·0007	+ 1·1	+ 2·4	+·0005
27	73·7	100·9		123·2		−·0013	+·0006	+ 0·8	+ 2·0	+·0004
32	73·1	101·5		123·3		−·0012	+·0006	+ 0·3	+ 1·9	+·0004
37	73·5	102·6		120·5		−·0009	+·0005	+ 0·6	+ 1·5	+·0004
42	72·9	103·3		119·4		−·0007	+·0005	+ 0·1	+ 1·3	+·0004
47	73·0	104·2		117·4		−·0005	+·0004	+ 0·1	+ 1·0	+·0003
52	73·9	103·8		117·4		−·0005	+·0004	+ 0·6	+ 1·0	+·0003
57	74·5	103·4		118·1		−·0006	+·0004	+ 0·1	+ 1·1	+·0003
14 02	74·5	103·6	49·0	117·3	48·0	−·0005	+·0004	+ 1·0	+ 1·0	+·0003
07	74·4	103·9		115·8		−·0004	+·0003	+ 0·8	+ 0·8	+·0002
12	74·9	103·1		116·4		−·0005	+·0003	+ 1·0	+ 0·9	+·0002
17	75·5	103·6		116·7		−·0004	+·0003	+ 1·3	+ 0·8	+·0002
22	75·3	104·1		116·2		−·0002	+·0003	+ 1·0	+ 0·5	+·0002
27	75·3	104·6		112·6		−·0001	+·0002	+ 0·8	+ 0·3	+·0002
32	75·2	105·0		111·5		+·0001	+·0002	+ 0·7	+ 0·1	+·0002
37	75·3	105·5		109·7		+·0002	+·0001	+ 0·6	− 0·1	+·0001
42	75·2	105·7		108·8		+·0003	+·0001	+ 0·4	− 0·2	+·0001
47	75·8	105·5		107·6		+·0003	·0000	+ 0·7	− 0·3	·0000
52	76·0	105·1		107·2		+·0002	·0000	+ 0·7	− 0·2	·0000
57	76·7	105·0		109·9		+·0002	+·0001	+ 1·1	− 0·1	+·0001
15 02	77·0	104·7	49·4	108·7	48·4	+·0002	·0000	+ 1·1	− 0·2	·0000
07	77·5	104·3		110·3		+·0001	+·0001	+ 1·3	0·0	+·0001
12	77·6	104·2		110·8		+·0001	+·0001	+ 1·2	0·0	+·0001
17	77·8	104·2		111·2		+·0001	+·0001	+ 1·2	0·0	+·0001
22	77·9	104·5		111·1		+·0002	+·0001	+ 1·1	− 0·1	+·0001
27	78·6	104·4		110·5		+·0002	+·0001	+ 1·5	− 0·1	+·0001
32	78·5	104·3		110·0		+·0002	+·0001	+ 1·2	− 0·1	+·0001
37	78·4	104·5		109·7		+·0003	+·0001	+ 1·0	− 0·2	+·0001
42	78·6	104·3		109·3		+·0002	+·0001	+ 1·0	− 0·1	+·0001
47	78·4	104·7		109·3		+·0003	+·0001	+ 0·7	− 0·2	+·0001
52	79·0	104·6		109·1		+·0003	+·0001	+ 0·9	− 0·2	+·0001
57	79·2	104·8		108·9		+·0004	+·0001	+ 0·9	− 0·3	+·0001

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OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
						$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta \psi$	$\Delta \theta$	$\frac{\Delta \phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
30 16 02	79·3	104·9	50·0	108·6	49·0	+·0004	+·0001	+ 0·8	− 0·3	+·0001
07	79·3	104·7		108·6		+·0003	+·0001	+ 0·7	− 0·2	+·0001
12	79·2	104·7		109·3		+·0003	+·0001	+ 0·6	− 0·2	+·0001
17	79·9	105·0		109·3		+·0004	+·0001	+ 0·9	− 0·3	+·0001
22	80·6	105·1		110·8		+·0004	+·0002	+ 1·3	− 0·2	+·0002
27	81·7	105·5		111·6		+·0004	+·0002	+ 2·0	− 0·2	+·0002
32	82·0	105·0		111·6		+·0003	+·0002	+ 2·1	− 0·1	+·0002
37	82·0	105·0		111·6		+·0003	+·0002	+ 2·0	− 0·1	+·0002
42	81·5	104·2		114·6		+·0001	+·0004	+ 1·5	+ 0·3	+·0004
47	82·3	104·0		113·8		·0000	+·0003	+ 2·0	+ 0·3	+·0003
52	82·2	104·0		113·8		·0000	+·0003	+ 1·8	+ 0·3	+·0003
57	81·8	103·9		113·8		−·0001	+·0004	+ 1·4	+ 0·5	+·0003
17 02	82·0	103·6	50·2	115·1	49·8	−·0002	+·0004	+ 1·4	+ 0·7	+·0003
07	81·8	103·8		115·1		−·0001	+·0004	+ 1·3	+ 0·5	+·0003
12	82·1	104·5		114·7		·0000	+·0004	+ 1·4	+ 0·4	+·0004
17	82·9	104·8		114·7		+·0001	+·0004	+ 2·0	+ 0·3	+·0004
22	82·8	104·0		114·5		−·0001	+·0004	+ 1·8	+ 0·5	+·0003
27	83·0	104·1		114·5		−·0001	+·0004	+ 2·0	+ 0·5	+·0003
32	83·2	104·0		115·3		−·0001	+·0004	+ 2·1	+ 0·5	+·0003
37	83·0	104·2		117·2		−·0001	+·0005	+ 1·9	+ 0·7	+·0004
42	82·7	103·0		118·2		−·0004	+·0005	+ 1·7	+ 1·0	+·0004
47	83·0	100·8		119·2		−·0009	+·0006	+ 1·8	+ 1·6	+·0004
52	82·8	99·7		121·5		−·0012	+·0007	+ 1·7	+ 2·0	+·0005
57	83·3	98·5		124·5		−·0014	+·0008	+ 2·0	+ 2·4	+·0006
18 02	83·6	97·5	50·7	125·7	50·0	−·0017	+·0008	+ 2·2	+ 2·7	+·0005
07	83·4	97·4		126·0		−·0017	+·0008	+ 2·0	+ 2·7	+·0005
12	82·2	97·8		125·9		−·0016	+·0009	+ 1·3	+ 2·7	+·0006
17	82·0	99·4		125·5		−·0013	+·0009	+ 1·1	+ 2·4	+·0007
22	81·1	99·3		120·6		−·0013	+·0007	+ 0·6	+ 2·2	+·0005
27	80·1	99·9		120·3		−·0012	+·0007	− 0·1	+ 2·0	+·0005
32	79·8	100·8		118·4		−·0010	+·0006	− 0·4	+ 1·7	+·0004
37	79·5	101·5		117·3		−·0009	+·0006	− 0·5	+ 1·6	+·0004
42	79·9	101·8		114·7		−·0008	+·0005	− 0·2	+ 1·4	+·0004
47	79·5	102·7		113·8		−·0006	+·0005	− 0·4	+ 1·2	+·0004
52	79·8	103·3		112·0		−·0005	+·0004	− 0·2	+ 1·0	+·0003
57	79·4	104·1		111·5		−·0004	+·0004	− 0·4	+ 0·9	+·0003
19 02	79·2	105·0	51·0	109·1	50·4	−·0002	+·0004	− 0·6	+ 0·7	+·0003
07	78·7	105·5		108·1		−·0001	+·0003	− 0·8	+ 0·4	+·0003
12	79·1	105·4		106·6		−·0001	+·0003	− 0·4	+ 0·4	+·0003
17	79·4	105·2		106·2		−·0001	+·0003	− 0·1	+ 0·4	+·0003
22	79·5	105·0		107·1		−·0002	+·0003	+ 0·1	+ 0·5	+·0002
27	79·8	105·1		109·2		−·0001	+·0004	+ 0·4	+ 0·5	+·0003
32	79·2	104·4		108·5		−·0003	+·0004	+ 0·1	+ 0·8	+·0003
37	79·0	104·1		109·0		−·0004	+·0004	+ 0·1	+ 0·9	+·0003
42	79·3	104·2		109·7		−·0004	+·0004	+ 0·4	+ 0·9	+·0003
47	79·5	103·9		109·3		−·0004	+·0004	+ 0·6	+ 0·9	+·0003
52	78·3	104·5		109·1		−·0003	+·0004	− 0·1	+ 0·8	+·0003
57	78·2	103·3		109·3		−·0006	+·0004	− 0·1	+ 1·1	+·0003
20 02	78·0	102·8	51·4	108·8	50·6	−·0007	+·0004	− 0·1	+ 1·2	+·0003
07	77·7	—		—		—	—	− 0·2	—	—
12	77·7	104·3		108·8		−·0003	+·0004	− 0·1	+ 0·8	+·0003
17	77·7	104·8		108·8		−·0002	+·0004	0·0	+ 0·7	+·0003
22	77·9	105·2		107·2		−·0001	+·0004	+ 0·3	+ 0·5	+·0003
27	78·0	104·5		107·9		−·0002	+·0004	+ 0·4	+ 0·7	+·0003
32	77·8	103·7		107·4		−·0004	+·0004	+ 0·4	+ 0·9	+·0003
37	78·1	103·7		107·6		−·0004	+·0004	+ 0·7	+ 0·9	+·0003
42	77·8	103·8		108·7		−·0004	+·0005	+ 0·6	+ 1·0	+·0004
47	78·5	104·1		109·0		−·0003	+·0005	+ 1·2	+ 0·9	+·0004
52	78·1	104·2		108·0		−·0002	+·0005	+ 1·0	+ 0·8	+·0004
57	78·5	104·8		106·6		−·0001	+·0004	+ 1·4	+ 0·5	+·0003
21 02	77·8	104·7	51·8	105·0	51·0	−·0001	+·0004	+ 1·0	+ 0·5	+·0003
07	76·9	104·7		104·5		−·0001	+·0004	+ 0·4	+ 0·5	+·0003

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OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
						$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
30 21 12	76·2	104·1		104·0		−·0002	+·0004	− 0·1	+ 0·7	+·0003
17	75·4	104·4		104·0		−·0001	+·0004	− 0·6	+ 0·5	+·0003
22	75·7	104·5		103·5		−·0001	+·0004	− 0·4	+ 0·5	+·0003
27	75·0	104·4		104·2		−·0001	+·0004	− 0·9	+ 0·5	+·0003
32	75·6	104·4		104·8		−·0001	+·0004	− 0·4	+ 0·5	+·0003
37	75·9	104·5		106·1		−·0001	+·0005	− 0·2	+ 0·7	+·0004
42	76·8	104·8		106·1		·0000	+·0005	+ 0·4	+ 0·5	+·0004
47	77·0	104·5		105·3		−·0001	+·0004	+ 0·6	+ 0·5	+·0003
52	76·3	103·5		106·0		−·0003	+·0005	+ 0·1	+ 0·9	+·0004
57	74·7	102·3		103·9		−·0006	+·0004	− 1·0	+ 1·1	+·0003
22 02	68·9	102·0	51·8	100·3	51·2	−·0006	+·0003	− 5·1	+ 1·0	+·0002
07	64·4	104·6		98·9		·0000	+·0002	− 8·3	+ 0·2	+·0002
12	65·0	108·1		94·8		+·0008	+·0001	− 7·8	− 0·8	+·0002
17	65·7	110·4		92·2		+·0013	·0000	− 7·3	− 1·4	+·0001
22	68·5	110·9		90·8		+·0014	−·0001	− 5·4	− 1·6	+·0001
27	70·1	109·1		88·4		+·0010	−·0002	− 4·2	− 1·3	−·0001
32	68·8	109·4		89·5		+·0011	−·0001	− 5·1	− 1·3	·0000
37	69·8	109·2		90·0		+·0010	−·0001	− 4·4	− 1·2	·0000
42	70·2	108·0		92·9		+·0007	·0000	− 4·1	− 0·8	+·0001
47	70·1	108·0		93·5		+·0007	·0000	− 4·2	− 0·8	+·0001
52	70·8	107·5		96·0		+·0006	+·0001	− 3·6	− 0·5	+·0002
57	72·3	106·1		98·4		+·0003	+·0002	− 2·5	− 0·1	+·0002
23 02	72·7	104·9	52·0	101·3	51·2	·0000	+·0003	− 2·2	+ 0·3	+·0003
07	73·7	103·9		106·3		−·0002	+·0005	− 1·4	+ 0·8	+·0004
12	74·6	103·7		108·3		−·0003	+·0006	− 0·7	+ 1·0	+·0005
17	74·3	103·2		107·6		−·0004	+·0005	− 0·8	+ 1·0	+·0004
22	74·4	102·9		108·4		−·0004	+·0006	− 0·7	+ 1·1	+·0005
27	74·7	102·8		110·5		−·0004	+·0006	− 0·4	+ 1·1	+·0005
32	74·5	102·8		110·5		−·0004	+·0006	− 0·5	+ 1·1	+·0005
37	74·9	102·8		111·7		−·0004	+·0007	− 0·1	+ 1·2	+·0006
42	75·4	103·6		109·8		−·0003	+·0006	+ 0·4	+ 1·0	+·0005
47	74·6	103·6		109·8		−·0003	+·0006	− 0·1	+ 1·0	+·0005
52	73·8	103·4		107·6		−·0003	+·0005	− 0·6	+ 0·9	+·0004
57	72·8	104·4		106·0		−·0001	+·0005	− 1·3	+ 0·7	+·0004
31 00 02	70·0	105·0	52·0	103·1	51·2	+·0001	+·0004	− 3·2	+ 0·3	+·0004
07	69·3	105·5		101·5		+·0002	+·0003	− 3·7	+ 0·1	+·0003
12	69·6	106·9		100·6		+·0005	+·0003	− 3·3	− 0·2	+·0003
17	69·6	109·7		96·9		+·0011	+·0002	− 3·2	− 1·0	+·0003
22	69·8	111·3		94·2		+·0015	+·0001	− 2·9	− 1·5	+·0002
27	71·0	111·7		91·6		+·0015	·0000	− 2·0	− 1·6	+·0002
32	71·7	110·6		91·2		+·0012	·0000	− 1·5	− 1·3	+·0001
37	73·1	109·6		92·6		+·0010	+·0001	− 0·4	− 1·0	+·0002
42	73·2	109·0		93·0		+·0008	+·0001	− 0·3	− 0·8	+·0002
47	71·6	109·4		93·3		+·0009	+·0001	− 1·3	− 0·9	+·0002
52	71·2	109·5		93·3		+·0009	+·0001	− 1·5	− 0·9	+·0002
57	70·8	109·5		93·0		+·0009	+·0001	− 1·7	− 0·9	+·0002
01 02	70·9	109·1	52·0	93·9	51·2	+·0008	+·0002	− 1·5	− 0·7	+·0003
07	71·7	108·0		95·1		+·0005	+·0002	− 1·0	− 0·3	+·0002
12	72·0	107·5		98·3		+·0005	+·0003	− 0·8	− 0·2	+·0003
17	73·3	105·7		100·0		+·0001	+·0003	+ 0·1	+ 0·2	+·0003
22	73·0	103·5		102·3		−·0004	+·0004	− 0·1	+ 0·9	+·0003
27	71·4	103·5		104·3		−·0004	+·0005	− 1·3	+ 1·0	+·0004
32	70·2	104·0		104·9		−·0003	+·0005	− 2·2	+ 0·9	+·0004
37	70·0	104·0		104·9		−·0002	+·0005	− 2·3	+ 0·8	+·0004
42	70·2	104·3		106·1		−·0001	+·0005	− 2·2	+ 0·7	+·0004
47	71·2	104·2		105·4		−·0001	+·0005	− 1·5	+ 0·7	+·0004
52	70·5	103·8		105·4		−·0002	+·0005	− 2·0	+ 0·8	+·0004
57	70·2	104·0		106·5		−·0001	+·0005	− 2·3	+ 0·7	+·0004
02 02	70·8	104·5	51·8	106·6	51·2	+·0001	+·0005	− 1·9	+ 0·4	+·0005
07	71·8	104·8		106·4		+·0001	+·0005	− 1·2	+ 0·4	+·0005
12	72·0	104·3		105·2		·0000	+·0004	− 1·1	+ 0·4	+·0004
17	71·4	103·9		106·2		−·0001	+·0005	− 1·5	+ 0·7	+·0004

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OBSERVATIONS OF THE MAGNETOMETERS. The Declination was observed 2m. before, and the V. F. 1m. after the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
31 02 22	71·2	103·7		106·1		−·0002	+·0005	− 1·6	+ 0·8	+·0004
27	71·4	103·8		107·6		−·0002	+·0005	− 1·5	+ 0·8	+·0004
32	72·2	103·7		107·5		−·0002	+·0006	− 0·9	+ 0·9	+·0005
37	72·2	103·2		108·6		−·0003	+·0006	− 0·8	+ 1·0	+·0005
42	72·1	103·7		107·3		−·0002	+·0006	− 0·9	+ 0·9	+·0005
47	71·9	103·7		108·6		−·0002	+·0006	− 1·1	+ 0·9	+·0005
52	72·2	103·6		108·3		−·0003	+·0006	− 0·8	+ 1·0	+·0005
57	73·0	103·5		108·4		−·0003	+·0006	− 0·3	+ 1·0	+·0005
03 02	73·3	103·5	51·8	108·7	51·2	−·0003	+·0006	− 0·1	+ 1·0	+·0005
07	73·5	103·5		109·2		−·0003	+·0006	0·0	+ 1·0	+·0005
12	73·8	104·1		108·1		−·0002	+·0006	+ 0·2	+ 0·9	+·0005
17	74·6	104·8		108·6		·0000	+·0006	+ 0·7	+ 0·7	+·0005
22	75·8	105·6		108·7		+·0002	+·0006	+ 1·5	+ 0·4	+·0006
27	77·8	106·3		107·9		+·0003	+·0006	+ 2·9	+ 0·3	+·0006
32	79·1	105·9		106·4		+·0002	+·0005	+ 3·9	+ 0·3	+·0005
37	79·1	105·8		106·0		+·0002	+·0005	+ 3·8	+ 0·3	+·0005
42	77·7	105·9		104·6		+·0002	+·0005	+ 2·7	+ 0·3	+·0005
47	76·4	106·1		104·2		+·0003	+·0004	+ 1·8	+ 0·1	+·0004
52	75·8	106·0		103·7		+·0002	+·0004	+ 1·3	+ 0·2	+·0004
57	75·2	105·5		100·6		+·0001	+·0003	+ 0·8	+ 0·2	+·0003
04 02	73·8	105·8	51·6	101·9	51·0	+·0002	+·0004	− 0·1	+ 0·2	+·0004
07	73·6	105·5		102·3		+·0001	+·0004	− 0·4	+ 0·3	+·0004
12	72·9	105·4		102·5		+·0001	+·0004	− 0·9	+ 0·3	+·0004
17	72·8	105·6		100·4		+·0001	+·0003	− 1·0	+ 0·2	+·0003
22	72·8	105·5		100·6		+·0001	+·0003	− 1·1	+ 0·2	+·0003
27	73·1	105·4		100·8		+·0001	+·0003	− 0·9	+ 0·2	+·0003
32	73·9	105·0		102·7		·0000	+·0004	− 0·4	+ 0·4	+·0004
37	74·8	104·4		103·3		−·0001	+·0004	+ 0·2	+ 0·5	+·0003
42	75·5	104·6		106·1		−·0001	+·0005	+ 0·6	+ 0·7	+·0004
47	78·9	105·7		107·9		+·0002	+·0006	+ 2·9	+ 0·4	+·0006
52	80·9	105·7		108·1		+·0002	+·0006	+ 4·4	+ 0·4	+·0006
57	80·7	105·9		106·4		+·0003	+·0005	+ 4·2	+ 0·2	+·0005
05 02	79·5	105·9	51·8	103·5	51·0	+·0003	+·0004	+ 3·2	+ 0·1	+·0004
07	78·6	105·9		104·1		+·0002	+·0004	+ 2·5	+ 0·2	+·0004
12	77·4	106·0		100·9		+·0003	+·0003	+ 1·6	0·0	+·0003
17	75·9	106·1		98·5		+·0003	+·0002	+ 0·5	− 0·1	+·0002
22	75·2	106·1		97·7		+·0003	+·0002	− 0·1	− 0·1	+·0002
27	74·8	105·9		98·4		+·0002	+·0002	− 0·4	0·0	+·0002
32	74·8	105·3		98·7		+·0001	+·0002	− 0·5	+ 0·1	+·0002
37	73·9	105·5		99·5		+·0001	+·0003	− 1·3	+ 0·2	+·0003
42	73·8	104·6		99·5		−·0002	+·0003	− 1·4	+ 0·5	+·0002
47	74·0	104·3		101·3		−·0002	+·0003	− 1·3	+ 0·5	+·0002
52	74·3	104·5		102·6		−·0002	+·0004	− 1·2	+ 0·7	+·0003
57	75·0	104·3		102·1		−·0003	+·0004	− 0·8	+ 0·8	+·0003
06 02	75·2	104·4	51·8	103·1	51·0	−·0003	+·0004	− 0·7	+ 0·8	+·0003
07	75·0	104·4		103·6		−·0003	+·0004	− 0·8	+ 0·8	+·0003
12	75·1	104·3		102·2		−·0003	+·0004	− 0·7	+ 0·8	+·0003
17	75·2	104·5		104·2		−·0003	+·0005	− 0·6	+ 0·9	+·0004
22	75·2	104·5		101·9		−·0003	+·0004	− 0·6	+ 0·8	+·0003
27	74·8	104·5		102·3		−·0003	+·0004	− 0·9	+ 0·8	+·0003
32	74·5	104·6		102·3		−·0003	+·0004	− 1·1	+ 0·8	+·0003
37	74·6	104·5		102·2		−·0003	+·0004	− 1·0	+ 0·8	+·0003
42	75·5	104·5		103·6		−·0004	+·0005	− 0·4	+ 1·0	+·0004
47	76·0	104·5		103·3		−·0004	+·0005	0·0	+ 1·0	+·0004
52	76·0	104·5		103·3		−·0004	+·0005	+ 0·1	+ 1·0	+·0004
57	76·0	104·7		102·9		−·0004	+·0005	+ 0·1	+ 1·0	+·0004
07 02	75·8	105·2	51·4	103·3	51·0	−·0002	+·0005	− 0·1	+ 0·8	+·0004
07	75·5	105·1		101·6		−·0003	+·0005	− 0·4	+ 0·9	+·0004
12	75·1	105·2		102·2		−·0002	+·0005	− 0·6	+ 0·8	+·0004
17	74·8	105·0		101·2		−·0003	+·0004	− 0·9	+ 0·8	+·0003
22	74·5	105·0		101·4		−·0003	+·0004	− 1·1	+ 0·8	+·0003
27	74·3	105·1		101·8		−·0003	+·0005	− 1·3	+ 0·9	+·0004

1844.
Van Diemen Island.

August 31.

OBSERVATIONS OF THE MAGNETOMETERS. The Declination was observed 2m. before, and the V. F. 1m. after the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta \psi$	$\Delta \theta$	$\frac{\Delta \phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
31 07 32	74·2	104·9		101·8		−·0003	+·0005	− 1·4	+ 0·9	+·0004
37	74·0	104·9		101·8		−·0003	+·0005	− 1·6	+ 0·9	+·0004
42	74·0	104·8		101·8		−·0003	+·0005	− 1·6	+ 0·9	+·0004
47	74·3	105·0		102·7		−·0002	+·0005	− 1·5	+ 0·8	+·0004
52	74·8	104·7		103·3		−·0003	+·0005	− 1·1	+ 0·9	+·0004
57	75·5	104·9		104·0		−·0003	+·0005	− 0·7	+ 0·9	+·0004
08 02	76·5	104·8	51·5	105·3	51·0	−·0003	+·0006	0·0	+ 1·0	+·0005
07	77·5	104·9		105·3		−·0003	+·0006	+ 0·8	+ 1·0	+·0005
12	78·5	104·9		106·2		−·0002	+·0006	+ 1·5	+ 0·9	+·0005
17	78·9	105·1		106·2		−·0002	+·0006	+ 1·8	+ 0·9	+·0005
22	78·4	105·0		104·9		−·0002	+·0006	+ 1·5	+ 0·9	+·0005
27	77·8	104·7		104·0		−·0003	+·0005	+ 1·1	+ 0·9	+·0004
32	76·9	104·6		104·0		−·0003	+·0005	+ 0·5	+ 0·9	+·0004
37	76·5	105·0		104·0		−·0002	+·0005	+ 0·3	+ 0·8	+·0004
42	76·5	105·7		103·0		·0000	+·0005	+ 0·3	+ 0·5	+·0004
47	76·6	106·2		102·3		+·0001	+·0005	+ 0·4	+ 0·4	+·0005
52	76·0	106·2		101·4		+·0001	+·0004	0·0	+ 0·3	+·0004
57	75·1	106·2		100·4		+·0001	+·0004	− 0·6	+ 0·3	+·0004
09 02	74·9	106·2	51·6	100·0	50·8	+·0001	+·0004	− 0·7	+ 0·3	+·0004
07	75·2	106·4		99·6		+·0002	+·0004	− 0·5	+ 0·2	+·0004
12	75·3	106·6		99·2		+·0002	+·0004	− 0·4	+ 0·2	+·0004
17	75·5	106·8		98·8		+·0002	+·0004	− 0·3	+ 0·2	+·0004
22	75·4	107·0		98·2		+·0002	+·0004	− 0·4	+ 0·2	+·0004
27	75·4	107·2		98·2		+·0003	+·0004	− 0·4	+ 0·1	+·0004
32	75·4	107·2		98·0		+·0003	+·0004	− 0·4	+ 0·1	+·0004
37	75·4	107·2		98·3		+·0002	+·0004	− 0·4	+ 0·2	+·0004
42	75·4	107·1		98·3		+·0002	+·0004	− 0·4	+ 0·2	+·0004
47	75·2	106·5		99·1		·0000	+·0004	− 0·6	+ 0·4	+·0004
52	75·0	106·3		99·3		−·0001	+·0004	− 0·7	+ 0·5	+·0003
57	74·9	106·4		99·3		−·0001	+·0004	− 0·8	+ 0·5	+·0003

1844.
Toronto.

August 30.

For Mean Monthly Readings, *see* page 367.

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30 10 02	116·6	76·8	65·8	38·8	65·3	−·0002	+·0003	− 1·7	+ 0·4	+·0003
07	117·0	71·9		37·7		−·0006	+·0002	− 1·6	+ 0·7	+·0002
12	117·2	71·6		38·2		−·0006	+·0002	− 1·6	+ 0·7	+·0002
17	117·1	73·0		38·0		−·0005	+·0002	− 1·8	+ 0·6	+·0002
22	117·1	73·7		38·0		−·0004	+·0002	− 1·9	+ 0·5	+·0002
27	117·2	74·5		39·4		−·0003	+·0003	− 2·0	+ 0·5	+·0003
32	118·0	79·4		40·5		+·0001	+·0004	− 1·6	+ 0·2	+·0004
37	118·0	79·4		40·2		+·0001	+·0003	− 1·7	+ 0·2	+·0003
42	118·1	73·9		40·2		−·0003	+·0003	− 1·8	+ 0·5	+·0003
47	116·8	69·4		38·5		−·0007	+·0002	− 2·9	+ 0·8	+·0001
52	116·9	66·6		38·0		−·0009	+·0002	− 3·0	+ 0·9	+·0001
57	116·8	61·7		37·1		−·0013	+·0001	− 3·2	+ 1·2	·0000
11 02	117·0	61·8	66·2	37·1	65·6	−·0013	+·0001	− 3·2	+ 1·2	·0000
07	117·7	61·2		37·1		−·0013	+·0001	− 2·8	+ 1·2	·0000
12	117·1	64·4		37·1		−·0010	+·0001	− 3·4	+ 0·9	·0000
17	116·8	60·6		36·5		−·0013	+·0001	− 3·7	+ 1·2	·0000
22	116·4	60·6		36·5		−·0012	+·0001	− 4·1	+ 1·1	·0000
27	116·9	59·7		36·5		−·0013	+·0001	− 3·9	+ 1·2	·0000
32	117·0	63·5		37·8		−·0009	+·0002	− 4·0	+ 0·9	+·0001
37	117·1	67·8		37·8		−·0005	+·0002	− 4·0	+ 0·6	+·0002
42	117·6	69·9		38·9		−·0002	+·0003	− 3·8	+ 0·4	+·0003
47	118·0	69·7		38·8		−·0002	+·0002	− 3·6	+ 0·3	+·0002
52	117·9	67·6		38·8		−·0004	+·0003	− 3·8	+ 0·6	+·0003
57	117·4	65·2		38·8		−·0005	+·0003	− 4·3	+ 0·7	+·0003
12 02	117·8	60·9	66·4	38·1	65·6	−·0009	+·0002	− 4·2	+ 0·9	+·0001
07	117·2	59·3		38·1		−·0010	+·0002	− 4·6	+ 1·0	+·0001
12	117·8	61·9		38·4		−·0007	+·0002	− 4·2	+ 0·8	+·0002

1844. Toronto. August 30.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
30 12 17	117·6	61·2		38·4		−·0008	+·0003	− 4·3	+ 0·9	+·0002
22	117·3	59·7		38·2		−·0009	+·0003	− 4·5	+ 1·0	+·0002
27	117·8	61·5		38·2		−·0007	+·0003	− 4·2	+ 0·9	+·0002
32	117·9	66·2		38·2		−·0003	+·0003	− 4·1	+ 0·5	+·0003
37	118·3	66·6		38·2		−·0002	+·0003	− 3·8	+ 0·4	+·0003
42	118·2	66·7		37·6		−·0002	+·0003	− 3·8	+ 0·4	+·0003
47	117·6	63·5		36·4		−·0005	+·0002	− 4·3	+ 0·6	+·0002
52	118·2	60·8		35·6		−·0007	+·0002	− 3·8	+ 0·8	+·0002
57	119·7	56·9		35·6		−·0010	+·0002	− 2·7	+ 1·0	+·0001
13 02	122·4	48·8	66·4	35·2	66·8	−·0017	+·0001	− 0·8	+ 1·5	·0000
07	129·4	44·4		35·6		−·0020	+·0002	+ 4·2	+ 1·9	+·0001
12	138·5	43·1		35·6		−·0021	+·0002	+10·7	+ 2·0	·0000
17	155·8	46·7		36·1		−·0018	+·0002	+23·0	+ 1·7	+·0001
22	169·3	63·6		33·8		−·0003	+·0001	+32·7	+ 0·3	+·0001
27	168·4	73·1		29·7		+·0005	−·0001	+32·0	− 0·5	−·0001
32	156·0	79·4		25·9		+·0011	−·0004	+22·9	− 1·3	−·0003
37	142·7	79·7		26·7		+·0011	−·0003	+13·4	− 1·2	−·0002
42	131·6	74·4		26·7		+·0007	−·0003	+ 5·3	− 0·9	−·0002
47	128·4	71·3		27·1		+·0004	−·0003	+ 2·9	− 0·6	−·0003
52	126·4	69·9		27·1		+·0003	−·0002	+ 1·4	− 0·4	−·0002
57	122·0	63·0		27·1		−·0003	−·0002	− 1·9	+ 0·1	−·0002
14 02	124·0	58·3	66·6	27·1	67·6	−·0007	−·0002	− 0·5	+ 0·4	−·0002
07	124·4	58·9		27·9		−·0006	−·0002	− 0·1	+ 0·3	−·0002
12	125·0	58·3		27·7		−·0007	−·0002	+ 0·4	+ 0·4	−·0002
17	126·1	54·9		27·7		−·0010	−·0002	+ 1·2	+ 0·7	−·0002
22	127·9	56·7		29·4		−·0008	−·0001	+ 2·5	+ 0·6	−·0001
27	125·0	57·6		29·4		−·0007	−·0001	+ 0·5	+ 0·5	−·0001
32	122·0	60·0		31·3		−·0005	+·0001	− 1·6	+ 0·5	+·0001
37	118·9	61·0		31·3		−·0004	+·0001	− 3·8	+ 0·4	+·0001
42	115·7	61·2		31·3		−·0004	+·0001	− 6·1	+ 0·4	+·0001
47	113·9	61·1		31·7		−·0004	+·0001	− 7·3	+ 0·4	+·0001
52	115·7	61·9		31·7		−·0004	+·0001	− 5·9	+ 0·4	+·0001
57	117·7	64·7		31·7		−·0001	+·0001	− 4·5	+ 0·2	+·0001
15 02	117·4	64·2	66·7	31·7	67·6	−·0002	+·0001	− 4·6	+ 0·2	+·0001
07	118·0	64·3		31·7		−·0002	+·0001	− 4·3	+ 0·2	+·0001
12	119·3	63·6		30·1		−·0002	+·0001	− 3·3	+ 0·2	+·0001
17	120·3	63·0		30·1		−·0003	+·0001	− 2·7	+ 0·3	+·0001
22	121·6	61·5		30·1		−·0004	+·0001	− 1·7	+ 0·4	+·0001
27	122·6	60·9		30·1		−·0004	+·0001	− 1·1	+ 0·4	+·0001
32	121·5	60·1		30·3		−·0005	+·0001	− 1·9	+ 0·5	+·0001
37	121·1	59·7		30·9		−·0005	+·0001	− 2·2	+ 0·5	+·0001
42	121·0	59·2		30·9		−·0006	+·0001	− 2·3	+ 0·6	+·0001
47	120·3	60·0		30·9		−·0005	+·0001	− 2·9	+ 0·5	+·0001
52	120·2	62·3		30·9		−·0003	+·0001	− 3·0	+ 0·3	+·0001
57	119·8	63·9		30·9		−·0002	+·0001	− 3·3	+ 0·2	+·0001
16 02	118·8	64·9	66·6	31·7	67·4	−·0001	+·0002	− 4·0	+ 0·2	+·0002
07	118·0	64·0		31·7		−·0002	+·0002	− 4·6	+ 0·3	+·0002
12	117·5	63·4		30·9		−·0002	+·0001	− 4·9	+ 0·2	+·0001
17	118·2	64·1		30·9		−·0001	+·0001	− 4·4	+ 0·2	+·0001
22	118·0	63·8		30·9		−·0002	+·0001	− 4·5	+ 0·2	+·0001
27	118·8	63·1		30·9		−·0002	+·0001	− 4·0	+ 0·2	+·0001
32	112·0	60·0		29·5		−·0005	+·0001	− 8·8	+ 0·5	+·0001
37	120·9	59·1		30·0		−·0006	+·0001	− 2·4	+ 0·6	+·0001
42	122·4	61·7		30·0		−·0003	+·0001	− 1·3	+ 0·3	+·0001
47	121·7	61·0		28·7		−·0004	·0000	− 1·8	+ 0·3	·0000
52	123·7	62·0		27·8		−·0003	·0000	− 0·3	+ 0·2	·0000
57	125·3	62·0		27·6		−·0003	−·0001	+ 0·9	+ 0·2	−·0001
17 02	125·0	61·8	66·4	27·0	67·0	−·0003	−·0001	+ 0·7	+ 0·2	−·0001
07	124·8	62·0		27·0		−·0003	−·0001	+ 0·4	+ 0·2	−·0001
12	125·0	61·0		27·0		−·0003	−·0001	+ 0·5	+ 0·2	−·0001
17	125·6	59·0		27·0		−·0005	−·0001	+ 0·9	+ 0·3	−·0001
22	126·2	59·0		27·9		−·0005	·0000	+ 1·2	+ 0·4	·0000

1844.
Toronto.

August 30.

OBSERVATIONS OF THE MAGNETOMETERS. The Declination was observed 2m. before, and the V. F. 1m. after the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta \psi$	$\Delta \theta$	$\frac{\Delta \phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
30 17 27	126·3	57·8		26·9		−·0006	−·0001	+ 1·2	+ 0·4	−·0001
32	127·8	59·0		26·1		−·0005	−·0001	+ 2·3	+ 0·3	−·0001
37	130·0	61·9		24·6		−·0002	−·0002	+ 3·8	0·0	−·0002
42	129·1	66·7		20·1		+·0002	−·0005	+ 3·1	− 0·6	−·0005
47	127·8	73·6		18·7		+·0008	−·0006	+ 2·1	− 1·2	−·0005
52	125·5	74·6		15·8		+·0009	−·0008	+ 0·4	− 1·4	−·0007
57	127·0	73·0		13·8		+·0007	−·0009	+ 1·4	− 1·4	−·0008
18 02	128·2	70·3	66·4	11·7	66·8	+·0005	−·0010	+ 2·2	− 1·3	−·0009
07	127·3	70·0		11·7		+·0005	−·0010	+ 1·6	− 1·3	−·0009
12	123·3	64·6		11·8		+·0001	−·0010	− 1·3	− 0·9	−·0009
17	122·0	56·2		13·3		−·0007	−·0009	− 2·2	− 0·2	−·0009
22	125·3	55·0		15·4		−·0007	−·0008	+ 0·2	− 0·1	−·0008
27	130·8	61·8		17·8		−·0001	−·0006	+ 4·3	− 0·4	−·0006
32	130·8	66·5		18·5		+·0003	−·0006	+ 4·3	− 0·8	−·0005
37	128·4	67·4		18·5		+·0004	−·0006	+ 2·6	− 0·9	−·0005
42	125·3	66·3		19·2		+·0003	−·0005	+ 0·4	− 0·7	−·0005
47	123·0	65·8		19·8		+·0003	−·0005	− 1·2	− 0·7	−·0005
52	121·7	63·9		19·8		+·0001	−·0005	− 2·2	− 0·5	−·0005
57	119·0	61·5		21·9		−·0001	−·0004	− 4·0	− 0·2	−·0004
19 02	118·8	61·0	66·4	24·0	66·8	−·0001	−·0002	− 4·2	− 0·1	−·0002
07	117·3	60·9		24·7		−·0001	−·0002	− 5·2	− 0·1	−·0002
12	116·7	59·4		24·7		−·0002	−·0002	− 5·6	0·0	−·0002
17	116·6	58·5		24·7		−·0003	−·0002	− 5·6	+ 0·1	−·0002
22	116·5	57·3		24·7		−·0004	−·0002	− 5·6	+ 0·2	−·0002
27	116·3	54·7		24·5		−·0006	−·0002	− 5·6	+ 0·3	−·0002
32	116·9	53·1		24·5		−·0008	−·0002	− 5·2	+ 0·5	−·0002
37	116·3	53·9		25·9		−·0007	−·0001	− 5·6	+ 0·5	−·0001
42	116·2	55·5		25·9		−·0006	−·0001	− 5·6	+ 0·4	−·0001
47	116·8	54·8		26·8		−·0006	−·0001	− 5·1	+ 0·4	−·0001
52	117·3	55·9		26·8		−·0005	−·0001	− 4·6	+ 0·3	−·0001
57	116·6	55·0		26·8		−·0006	−·0001	− 5·1	+ 0·4	−·0001
20 02	116·5	55·6	66·4	26·8	66·7	−·0005	−·0001	− 5·1	+ 0·3	−·0001
07	115·8	56·5		26·8		−·0005	−·0001	− 5·5	+ 0·3	−·0001
12	115·0	60·7		26·8		−·0001	−·0001	− 6·1	0·0	−·0001
17	114·8	57·2		29·3		−·0004	+·0001	− 6·1	+ 0·4	+·0001
22	115·0	59·4		29·3		−·0002	+·0001	− 6·0	+ 0·2	+·0001
27	115·6	57·8		28·6		−·0003	+·0001	− 5·5	+ 0·3	+·0001
32	116·8	57·7		27·8		−·0004	·0000	− 4·6	+ 0·3	·0000
37	117·1	58·7		27·8		−·0003	·0000	− 4·3	+ 0·2	·0000
42	116·4	60·0		29·3		−·0001	+·0001	− 4·8	+ 0·2	+·0001
47	116·7	62·3		29·8		+·0001	+·0001	− 4·5	0·0	+·0001
52	117·4	62·6		29·8		+·0001	+·0001	− 4·0	0·0	+·0001
57	117·7	67·2		32·6		+·0005	+·0003	− 3·8	− 0·2	+·0003
21 02	115·5	64·6	66·4	30·8	66·6	+·0003	+·0002	− 5·3	− 0·1	+·0002
07	115·1	60·8		29·5		−·0001	+·0001	− 5·6	+ 0·2	+·0001
12	115·6	67·0		27·8		+·0005	·0000	− 5·4	− 0·4	·0000
17	116·3	68·7		27·8		+·0006	·0000	− 5·0	− 0·5	·0000
22	117·3	57·5		27·2		−·0003	−·0001	− 4·3	+ 0·2	−·0001
27	119·2	56·6		27·2		−·0004	−·0001	− 3·1	+ 0·2	−·0001
32	120·4	59·2		27·2		−·0002	−·0001	− 2·3	+ 0·1	−·0001
37	119·6	59·1		28·9		−·0002	·0000	− 3·0	+ 0·2	·0000
42	117·8	60·2		28·9		−·0001	·0000	− 4·4	+ 0·1	·0000
47	117·0	61·7		28·9		·0000	·0000	− 5·1	0·0	·0000
52	116·2	59·7		27·9		−·0002	−·0001	− 5·7	+ 0·1	−·0001
57	115·5	58·6		27·1		−·0003	−·0001	− 6·3	+ 0·2	−·0001
22 02	115·6	54·8	66·4	25·1	66·6	−·0006	−·0003	− 6·3	+ 0·2	−·0003
07	115·1	51·2		25·1		−·0009	−·0003	− 6·8	+ 0·5	−·0003
12	116·7	49·5		25·7		−·0010	−·0002	− 5·8	+ 0·7	−·0002
17	114·7	48·7		28·3		−·0011	−·0001	− 7·3	+ 0·9	−·0002
22	114·0	52·7		29·6		−·0008	·0000	− 7·8	+ 0·7	·0000
27	112·1	51·3		28·9		−·0009	·0000	− 9·3	+ 0·8	−·0001
32	111·2	49·5		28·9		−·0010	·0000	−10·1	+ 0·9	−·0001

1844.
Toronto.

August 30—31.

OBSERVATIONS OF THE MAGNETOMETERS. The Declination was observed 2m. before, and the V. F. 1m. after the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta \psi$	$\Delta \theta$	$\frac{\Delta \phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
30 22 37	110·7	50·1		26·6		−·0010	−·0002	−10·5	+ 0·7	−·0002
42	110·4	53·8		26·1		−·0006	−·0002	−10·8	+ 0·3	−·0002
47	110·3	53·7		25·1		−·0007	−·0003	−10·9	+ 0·3	−·0003
52	110·3	55·6		25·1		−·0005	−·0003	−11·1	+ 0·2	−·0003
57	111·7	57·9		25·1		−·0003	−·0003	−10·2	0·0	−·0003
23 02	112·8	59·9	66·5	24·3	66·8	−·0001	−·0003	− 9·5	− 0·2	−·0003
07	115·0	63·7		25·3		+·0002	−·0003	− 8·1	− 0·4	−·0003
12	117·1	67·0		25·3		+·0005	−·0003	− 6·9	− 0·7	−·0003
17	117·8	67·4		26·3		+·0005	−·0002	− 6·6	− 0·6	−·0002
22	119·2	67·5		27·2		+·0005	−·0002	− 5·8	− 0·6	−·0002
27	121·2	67·7		27·2		+·0005	−·0002	− 4·7	− 0·6	−·0002
32	122·4	68·0		27·9		+·0005	−·0001	− 4·0	− 0·5	−·0001
37	124·6	69·7		28·6		+·0007	−·0001	− 2·7	− 0·7	−·0001
42	124·1	68·6		28·6		+·0006	−·0001	− 3·3	− 0·6	−·0001
47	122·7	63·9		28·5		+·0001	−·0001	− 4·6	− 0·2	−·0001
52	124·2	64·8		29·1		+·0002	−·0001	− 3·8	− 0·2	−·0001
57	124·8	66·0		29·1		+·0003	−·0001	− 3·6	− 0·3	−·0001
31 00 02	121·5	61·1	66·5	29·4	66·2	−·0001	−·0001	− 6·2	0·0	−·0001
07	122·3	61·5		29·4		−·0001	−·0001	− 5·7	0·0	−·0001
12	122·8	61·3		30·0		−·0001	−·0001	− 5·4	0·0	−·0001
17	122·0	58·1		29·7		−·0003	−·0001	− 6·1	+ 0·2	−·0001
22	121·6	54·4		29·7		−·0007	−·0001	− 6·5	+ 0·5	−·0001
27	122·0	54·5		29·7		−·0006	−·0001	− 6·3	+ 0·4	−·0001
32	—	55·0		30·5		−·0006	·0000	—	+ 0·5	·0000
37	121·8	54·3		30·9		−·0006	·0000	− 6·6	+ 0·5	·0000
42	121·7	51·5		30·9		−·0008	·0000	− 6·7	+ 0·7	·0000
47	121·5	50·4		31·6		−·0009	·0000	− 6·9	+ 0·8	−·0001
52	122·0	51·8		31·6		−·0008	·0000	− 6·7	+ 0·7	·0000
57	121·4	50·5		31·6		−·0009	·0000	− 7·2	+ 0·8	−·0001
01 02	120·4	49·4	66·0	31·0	66·2	−·0010	·0000	− 8·0	+ 0·9	−·0001
07	119·3	47·6		30·6		−·0011	·0000	− 8·8	+ 0·9	−·0001
12	118·8	48·4		30·6		−·0010	·0000	− 9·2	+ 0·9	−·0001
17	118·8	48·4		30·6		−·0010	·0000	− 9·2	+ 0·9	−·0001
22	119·1	48·3		30·4		−·0009	·0000	− 8·9	+ 0·8	−·0001
27	119·3	51·1		30·7		−·0007	·0000	− 8·8	+ 0·6	·0000
32	119·2	50·7		30·5		−·0007	·0000	− 8·8	+ 0·6	·0000
37	119·2	50·4		30·5		−·0007	·0000	− 8·8	+ 0·6	·0000
42	120·1	51·6		30·7		−·0005	·0000	− 8·1	+ 0·4	·0000
47	120·4	53·3		30·8		−·0004	·0000	− 7·9	+ 0·3	·0000
52	119·6	52·4		30·3		−·0004	·0000	− 8·4	+ 0·3	·0000
57	119·1	53·0		30·2		−·0003	·0000	− 8·8	+ 0·2	·0000
02 02	118·7	53·6	66·2	30·2	66·3	−·0002	·0000	− 9·1	+ 0·2	·0000
07	119·8	50·5		30·2		−·0004	·0000	− 8·0	+ 0·3	·0000
12	121·0	50·7		30·2		−·0004	·0000	− 7·0	+ 0·3	·0000
17	120·8	53·3		30·9		−·0001	·0000	− 7·0	+ 0·1	·0000
22	120·4	54·2		30·0		+·0001	·0000	− 7·1	− 0·1	·0000
27	120·1	55·9		30·0		+·0003	·0000	− 7·1	− 0·2	·0000
32	119·5	56·2		29·6		+·0004	·0000	− 7·3	− 0·3	·0000
37	120·3	56·4		28·6		+·0005	−·0001	− 6·5	− 0·5	−·0001
42	119·8	55·0		30·0		+·0004	·0000	− 6·6	− 0·3	·0000
47	118·8	53·2		28·9		+·0003	−·0001	− 7·2	− 0·3	−·0001
52	119·6	53·2		28·9		+·0004	−·0001	− 6·4	− 0·4	−·0001
57	119·9	54·0		28·9		+·0005	−·0001	− 6·0	− 0·5	−·0001
03 02	120·3	54·3	66·8	28·9	66·6	+·0006	−·0001	− 5·5	− 0·6	−·0001
07	120·1	56·4		28·9		+·0008	−·0001	− 5·3	− 0·8	·0000
12	119·8	56·4		28·9		+·0008	−·0001	− 5·2	− 0·8	·0000
17	119·8	55·2		28·9		+·0007	−·0001	− 4·8	− 0·7	−·0001
22	119·8	52·3		28·9		+·0005	−·0001	− 4·5	− 0·5	−·0001
27	119·3	50·0		28·9		+·0003	−·0001	− 4·5	− 0·3	−·0001
32	117·9	48·7		29·7		+·0002	·0000	− 5·3	− 0·2	·0000
37	117·2	47·5		29·7		+·0001	·0000	− 5·4	− 0·1	·0000
42	117·3	49·7		29·5		+·0003	·0000	− 5·1	− 0·2	·0000

1844.
Toronto.

August 31.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
31 03 47	118·5	50·2		29·5		+·0004	·0000	− 3·8	− 0·3	·0000
52	118·0	49·4		29·5		+·0003	·0000	− 3·9	− 0·2	·0000
57	117·5	49·3		29·3		+·0003	·0000	− 3·9	− 0·2	·0000
04 02	116·8	46·1	67·2	29·3	67·0	+·0001	·0000	− 4·1	− 0·1	·0000
07	114·9	47·3		29·3		+·0002	·0000	− 5·2	− 0·2	·0000
12	113·9	47·3		30·3		+·0001	+·0001	− 5·6	0·0	+·0001
17	114·7	48·8		30·3		+·0003	+·0001	− 4·7	− 0·2	+·0001
22	115·4	47·3		29·9		+·0001	+·0001	− 3·9	0·0	+·0001
27	115·3	47·8		30·9		+·0001	+·0001	− 3·6	0·0	+·0001
32	114·1	47·8		30·9		+·0001	+·0001	− 4·2	0·0	+·0001
37	111·7	50·3		30·7		+·0003	+·0001	− 5·6	− 0·2	+·0001
42	111·0	51·2		30·7		+·0004	+·0001	− 5·8	− 0·2	+·0001
47	110·7	49·8		29·7		+·0003	+·0001	− 5·7	− 0·2	+·0001
52	111·7	48·3		29·7		+·0001	+·0001	− 4·7	0·0	+·0001
57	112·0	52·6		29·7		+·0005	+·0001	− 4·1	− 0·3	+·0001
05 02	111·3	52·5	67·6	29·7	67·6	+·0004	+·0001	− 4·3	− 0·2	+·0001
07	112·1	54·8		29·7		+·0006	+·0001	− 3·6	− 0·4	+·0001
12	112·2	54·9		30·7		+·0006	+·0002	− 3·4	− 0·3	+·0002
17	113·1	54·4		30·7		+·0005	+·0002	− 2·6	− 0·2	+·0002
22	113·4	54·2		30·7		+·0004	+·0002	− 2·2	− 0·2	+·0002
27	112·8	54·6		30·7		+·0004	+·0002	− 2·5	− 0·2	+·0002
32	112·3	55·6		30·7		+·0005	+·0002	− 2·7	− 0·2	+·0002
37	112·6	56·5		30·7		+·0005	+·0002	− 2·3	− 0·2	+·0002
42	112·3	59·5		32·3		+·0007	+·0003	− 2·4	− 0·3	+·0003
47	111·0	62·0		32·3		+·0009	+·0003	− 3·2	− 0·5	+·0003
52	110·1	59·7		31·7		+·0006	+·0002	− 3·6	− 0·3	+·0002
57	110·3	60·2		31·7		+·0006	+·0002	− 3·3	− 0·3	+·0002
06 02	110·5	61·3	68·2	31·7	68·2	+·0007	+·0002	− 3·0	− 0·4	+·0002
07	110·4	62·5		31·9		+·0007	+·0002	− 3·0	− 0·4	+·0002
12	110·3	62·5		31·0		+·0007	+·0002	− 3·0	− 0·4	+·0002
17	110·3	62·2		30·7		+·0006	+·0001	− 2·9	− 0·4	+·0001
22	110·5	63·8		31·3		+·0007	+·0002	− 2·7	− 0·4	+·0002
27	111·0	64·8		31·3		+·0008	+·0002	− 2·2	− 0·5	+·0002
32	111·0	65·5		31·8		+·0008	+·0002	− 2·1	− 0·5	+·0002
37	110·4	65·3		31·8		+·0007	+·0002	− 2·5	− 0·4	+·0002
42	110·3	65·6		31·6		+·0007	+·0002	− 2·4	− 0·4	+·0002
47	110·2	65·9		31·6		+·0007	+·0002	− 2·4	− 0·4	+·0002
52	110·5	66·0		31·2		+·0007	+·0001	− 2·1	− 0·5	+·0001
57	110·8	66·1		31·2		+·0006	+·0001	− 1·7	− 0·4	+·0001
07 02	110·6	65·0	68·6	31·2	68·4	+·0005	+·0001	− 1·8	− 0·3	+·0001
07	111·8	68·6		31·5		+·0007	+·0001	− 1·0	− 0·5	+·0001
12	112·0	69·4		31·5		+·0008	+·0001	− 0·9	− 0·6	+·0001
17	111·4	68·0		31·8		+·0006	+·0001	− 1·4	− 0·4	+·0001
22	111·5	70·0		31·9		+·0007	+·0001	− 1·4	− 0·5	+·0001
27	112·1	72·1		32·5		+·0009	+·0002	− 1·1	− 0·6	+·0002
32	112·7	73·8		32·5		+·0010	+·0002	− 0·7	− 0·7	+·0002
37	112·8	74·9		32·9		+·0010	+·0002	− 0·7	− 0·7	+·0002
42	112·2	72·0		32·9		+·0007	+·0002	− 1·2	− 0·4	+·0002
47	112·3	70·4		32·6		+·0006	+·0002	− 1·2	− 0·3	+·0002
52	112·4	66·6		32·6		+·0002	+·0001	− 1·2	− 0·1	+·0001
57	112·0	64·6		31·9		·0000	+·0001	− 1·6	+ 0·1	+·0001
08 02	112·2	60·6	69·0	31·9	68·5	−·0004	+·0001	− 1·5	+ 0·4	+·0001
07	111·0	59·7		31·9		−·0005	+·0001	− 2·5	+ 0·5	+·0001
12	110·9	59·1		31·9		−·0006	+·0001	− 2·7	+ 0·6	+·0001
17	110·3	59·4		31·4		−·0006	+·0001	− 3·3	+ 0·6	+·0001
22	110·0	60·3		31·4		−·0005	+·0001	− 3·8	+ 0·5	+·0001
27	110·0	63·0		31·7		−·0003	+·0001	− 3·9	+ 0·3	+·0001
32	110·1	67·0		31·7		·0000	+·0001	− 4·0	+ 0·1	+·0001
37	111·0	68·8		31·7		+·0002	+·0001	− 3·5	− 0·1	+·0001
42	112·0	73·2		32·3		+·0005	+·0001	− 2·9	− 0·3	+·0001
47	113·1	73·7		32·3		+·0005	+·0001	− 2·2	− 0·3	+·0001
52	113·5	76·3		32·3		+·0007	+·0001	− 2·2	− 0·5	+·0001
57	114·0	76·1		32·3		+·0007	+·0001	− 1·9	− 0·5	+·0001

1844. Toronto. — August 31.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours. $\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
31 09 02	114·7	74·5	69·4	32·3	68·7	+·0006	+·0001	− 1·6	− 0·4	+·0001
07	115·3	73·7		32·3		+·0005	+·0001	− 1·3	− 0·3	+·0001
12	115·4	70·5		32·3		+·0002	+·0001	− 1·4	− 0·1	+·0001
17	115·9	72·2		32·1		+·0004	+·0001	− 1·1	− 0·2	+·0001
22	116·0	71·0		32·4		+·0003	+·0001	− 1·2	− 0·2	+·0001
27	116·0	72·8		32·4		+·0005	+·0001	− 1·3	− 0·3	+·0001
32	115·6	66·3		32·4		−·0001	+·0001	− 1·7	+ 0·2	+·0001
37	116·0	63·9		31·4		−·0003	+·0001	− 1·5	+ 0·3	+·0001
42	116·0	62·3		31·4		−·0004	+·0001	− 1·7	+ 0·4	+·0001
47	116·2	62·9		31·4		−·0004	+·0001	− 1·7	+ 0·4	+·0001
52	116·3	61·7		31·4		−·0005	+·0001	− 1·7	+ 0·5	+·0001
57	116·3	61·9		31·4		−·0005	+·0001	− 1·8	+ 0·5	+·0001

1844. Van Diemen Island. — September 8.

VAN DIEMEN ISLAND, 1844. SEPTEMBER 8.

MEAN MONTHLY READINGS OF THE MAGNETOMETERS.

Mean Göttingen Time.	Declination.	H. F. at 51°·4.	V. F. at 50°·5.	Mean Göttingen Time.	Declination.	H. F. at 51°·4.	V. F. at 50°·5.
Hours.	Sc. Div.	Sc. Div.	Sc. Div.	Hours.	Sc. Div.	Sc. Div.	Sc. Div.
00	74·1	107·0	105·3	12	71·7	106·4	97·6
01	74·2	107·6	104·4	13	70·8	105·0	98·2
02	73·5	107·8	103·0	14	74·0	103·7	101·5
03	73·3	107·2	104·0	15	77·2	103·2	104·1
04	74·2	107·6	102·4	16	79·9	103·9	106·0
05	74·6	107·7	101·7	17	81·5	105·0	106·7
06	75·3	107·3	101·3	18	81·8	106·3	107·6
07	76·2	107·5	100·9	19	79·2	107·6	105·7
08	76·2	107·6	99·2	20	78·0	107·3	106·1
09	75·8	107·7	97·6	21	76·5	107·2	105·5
10	75·1	108·2	96·4	22	76·2	107·1	105·1
11	73·4	107·4	96·1	23	75·1	107·0	105·0

Coefficients (A), Approximate Absolute Values (B.)

(A) Declin. $a = 0'·71$

H. F. $k = ·000229$, $q = ·000230$

V. F. $k = ·000036$, $q = ·00021$

(B) Approx. $\psi = -\ 9°\ 55'$, $X = 4·51$, $Y = 12·86$, $\theta = -\ 70°\ 37'$, $\phi = 13·62$

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours. $\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
8 03 02	66·8	107·0	51·8	96·1	51·0	+·0001	−·0002	− 4·7	− 0·3	−·0002
07	67·7	106·8		97·3		·0000	−·0001	− 4·1	− 0·1	−·0001
12	68·0	105·9		97·9		−·0002	−·0001	− 4·0	+ 0·1	−·0001
17	69·0	104·9		100·6		−·0005	·0000	− 3·2	+ 0·5	−·0001
22	68·9	104·7		100·7		−·0004	·0000	− 3·3	+ 0·5	−·0001
27	69·5	105·0		103·4		−·0004	+·0001	− 2·9	+ 0·5	·0000
32	71·0	105·7		104·4		−·0003	+·0002	− 2·0	+ 0·5	+·0001
37	72·0	105·7		103·2		−·0003	+·0001	− 1·3	+ 0·4	+·0001
42	72·8	105·8		103·6		−·0003	+·0002	− 0·8	+ 0·5	+·0001
47	73·0	—		—		—	—	− 0·7	—	—
04 02	74·8	106·3	52·0	104·9	51·2	−·0002	+·0002	+ 0·4	+ 0·4	+·0002
05 02	76·4	107·1	52·0	100·4	51·6	·0000	+·0002	+ 1·3	+ 0·2	+·0002
06 02	76·8	107·9	52·0	98·6	51·6	+·0003	+·0001	+ 1·1	− 0·2	+·0001
07 02	77·0	108·0	52·0	99·3	51·4	+·0003	+·0001	+ 0·6	− 0·2	+·0001

TORONTO, 1844. SEPTEMBER 14.

MEAN MONTHLY READINGS OF THE MAGNETOMETERS.

Mean Göttingen Time.	Declination.	H. F. at 65°·3.	V. F. at 65°·1.	Mean Göttingen Time.	Declination.	H. F. at 65°·3.	V. F. at 65°·1.
Hours.	Sc. Div.	Sc. Div.	Sc. Div.	Hours.	Sc. Div.	Sc. Div.	Sc. Div.
00	123·9	129·9	70·8	12	118·7	139·7	73·5
01	125·0	127·1	72·4	13	119·3	137·2	73·1
02	123·6	121·5	72·0	14	121·0	134·7	72·6
03	121·1	116·6	71·8	15	122·7	130·0	71·5
04	115·7	114·3	71·6	16	121·3	129·7	71·4
05	111·5	117·3	72·0	17	119·5	129·6	71·2
06	108·8	124·9	72·6	18	121·5	126·9	69·5
07	109·9	133·3	73·6	19	119·4	122·6	67·2
08	110·8	138·0	74·2	20	120·3	122·4	65·4
09	114·1	141·2	74·5	21	120·6	124·0	67·4
10	117·5	143·0	74·0	22	120·1	128·1	69·3
11	118·4	142·2	73·4	23	120·0	125·4	68·9

Coefficients (A), Approximate Absolute Values (B.)

(A)
- Declin. $a = 0'\cdot721$
- H. F. $k = \cdot000087$, $q = \cdot00027$
- V. F. $k = \cdot000062$, $q = \cdot00007$

(B) Approx.
- $\psi = 1°\,26'$
- X = 3·54
- Y = 13·44
- $\theta = 75°\,16'$
- $\phi = 13\cdot90$

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.	
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °
14 14 02	118·8	128·6	72·2	62·3	71·2
15 02	158·1	79·4	71·6	60·4	71·0
07	159·6	79·1		60·7	
12	151·6	79·8		60·5	
17	141·3	86·7		59·3	
22	129·6	84·5		57·5	
27	125·3	79·4		59·3	
32	125·9	87·0		62·5	
37	126·0	97·8		62·5	
42	123·9	102·6		60·5	
47	124·8	105·9		58·8	
52	126·1	108·2		57·2	
57	127·3	109·5		54·4	
16 02	126·9	111·4	71·6	54·3	72·0
07	124·9	111·2		53·3	
12	124·7	113·1		55·3	
17	124·7	115·9		56·1	
22	123·4	115·5		57·1	
27	122·3	116·8		58·2	
32	121·8	118·8		59·9	
37	121·3	121·1		60·7	
42	120·3	122·2		60·7	
47	119·6	122·9		60·7	
52	118·9	123·2		60·3	
57	118·6	123·5		60·3	
17 02	118·8	123·7	71·5	60·3	72·0

Differences from the Mean Monthly Values at the corresponding Hours.

$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
+·0013	−·0002	− 1·5	− 1·3	−·0001
−·0027	−·0003	+25·5	+ 2·0	−·0005
−·0027	−·0003	+26·6	+ 2·0	−·0005
−·0027	−·0003	+21·0	+ 2·0	−·0005
−·0021	−·0003	+13·6	+ 1·5	−·0004
−·0023	−·0004	+ 5·3	+ 1·6	−·0005
−·0027	−·0003	+ 2·3	+ 2·0	−·0005
−·0020	−·0001	+ 2·8	+ 1·6	−·0002
−·0011	−·0001	+ 3·0	+ 0·9	−·0002
−·0007	−·0002	+ 1·5	+ 0·4	−·0002
−·0004	−·0003	+ 2·3	+ 0·1	−·0003
−·0002	−·0004	+ 3·3	− 0·2	−·0004
−·0001	−·0006	+ 4·2	− 0·4	−·0006
+·0001	−·0006	+ 4·0	− 0·6	−·0006
+·0001	−·0006	+ 2·8	− 0·6	−·0006
+·0002	−·0005	+ 2·7	− 0·6	−·0005
+·0005	−·0005	+ 2·8	− 0·9	−·0004
+·0005	−·0004	+ 1·9	− 0·8	−·0003
+·0006	−·0003	+ 1·3	− 0·8	−·0002
+·0007	−·0002	+ 1·0	− 0·8	−·0001
+·0009	−·0002	+ 0·8	− 0·9	−·0001
+·0010	−·0002	+ 0·1	− 1·0	−·0001
+·0011	−·0002	− 0·2	− 1·1	−·0001
+·0011	−·0002	− 0·6	− 1·1	−·0001
+·0011	−·0002	− 0·8	− 1·1	−·0001
+·0012	−·0002	− 0·5	− 1·2	−·0001

1844.
Cape of Good Hope.

September 20 & 26.

CAPE OF GOOD HOPE, 1844. SEPTEMBER 20—26.

MEAN MONTHLY READINGS OF THE MAGNETOMETERS.

Mean Göttingen Time.	Declination.	H. F. at 58°·9.	V. F. at 59°·0.	Mean Göttingen Time.	Declination.	H. F. at 58°·9.	V. F. at 59°·0.
Hours.	Sc. Div.	Sc. Div.	Sc. Div.	Hours.	Sc. Div.	Sc. Div.	Sc. Div.
00	51·1	49·0	13·8	12	52·9	47·6	15·0
01	52·3	48·4	13·8	13	52·9	47·8	15·0
02	53·0	48·1	14·5	14	53·0	47·9	14·9
03	53·2	48·0	15·4	15	53·2	48·1	14·7
04	52·7	47·6	16·4	16	53·2	48·1	14·6
05	52·2	47·3	17·3	17	53·5	47·9	14·2
06	52·3	46·9	16·7	18	54·9	48·0	13·3
07	52·5	46·8	16·3	19	54·3	48·8	14·5
08	52·4	46·9	16·2	20	51·9	49·7	16·0
09	52·4	47·0	15·8	21	49·7	50·2	16·8
10	52·7	47·2	15·4	22	48·6	50·1	16·0
11	52·8	47·4	15·3	23	49·4	49·2	14·7

Coefficients (A), Approximate Absolute Values (B).

(A) Declin. $a = 0'\cdot751$

H. F. $k = \cdot00035$, $q = \cdot00027$

V. F. $k = \cdot00017$, $q = \cdot00005$

(B) Approx. $\psi = 29°\,05'$, $X = 4\cdot46$, $Y = 6\cdot00$, $\theta = -53°\,19'$, $\phi = 7\cdot50$

OBSERVATIONS OF THE MAGNETOMETERS.

The H. F. and V. F. were observed immediately after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
20 03 00	54·8	45·7	62·4	14·0	62·1	+·0002	−·0001	+ 1·2	− 0·5	·0000
04 00	53·6	43·1	62·7	17·1	62·2	−·0005	+·0003	+ 0·7	+ 1·3	·0000
05 00	53·1	40·4	62·7	20·1	62·0	−·0014	+·0006	+ 0·7	+ 3·3	−·0001
30	53·1	40·7		19·1		−·0012	+·0005	+ 0·6	+ 2·8	−·0001
06 00	53·0	41·3	62·7	18·0	62·2	−·0009	+·0004	+ 0·5	+ 2·1	−·0001
30	53·0	41·7		17·2		−·0008	+·0003	+ 0·5	+ 1·8	−·0001
07 00	52·0	40·6	62·5	18·4	62·0	−·0012	+·0005	− 0·4	+ 2·8	−·0001
30	51·0	41·3		18·4		−·0010	+·0005	− 1·1	+ 2·5	·0000
08 00	50·8	43·6	62·2	15·8	61·9	−·0003	+·0001	− 1·2	+ 0·7	·0000
30	51·6	43·0		15·1		−·0006	·0000	− 0·6	+ 1·0	−·0002
09 00	50·7	40·2	61·8	18·7	61·7	−·0016	+·0006	− 1·3	+ 3·6	−·0002
30	51·1	42·2		16·0		−·0010	+·0002	− 1·1	+ 2·0	−·0002
10 00	51·3	41·9	61·6	16·0	61·5	−·0011	+·0002	− 1·1	+ 2·1	−·0003
30	52·6	44·1		13·1		−·0004	−·0003	− 0·2	+·0·1	−·0003
11 00	53·9	45·2	61·1	11·5	61·1	−·0001	−·0005	+ 0·8	− 0·7	−·0004
12 00	53·3	45·7	60·9	12·4	60·9	−·0001	−·0003	+ 0·3	− 0·3	−·0002
26 02 00	54·8	46·9	59·6	12·8	59·4	−·0002	−·0003	+ 1·4	− 0·1	−·0003
03 00	53·9	45·0	60·0	15·4	59·7	−·0007	·0000	+ 0·5	+ 1·2	−·0002
04 00	51·1	40·5	60·6	22·5	60·0	−·0020	+·0011	− 1·2	+ 5·1	·0000
30	50·9	40·8		20·4		−·0018	+·0007	− 1·1	+ 4·1	−·0002
05 00	50·7	39·2	60·8	21·4	60·5	−·0023	+·0008	− 1·1	+ 5·1	−·0003
30	51·2	37·0		21·9		−·0030	+·0009	− 0·8	+ 6·4	−·0005
06 00	50·8	39·0	61·0	19·6	60·5	−·0022	+·0006	− 1·1	+ 4·6	−·0004
30	49·2	38·8		20·2		−·0022	+·0007	− 2·4	+ 4·8	−·0003
07 00	49·0	39·2	61·1	19·8	60·6	−·0020	+·0007	− 2·6	+ 4·4	−·0003
30	49·7	38·3		19·1		−·0024	+·0006	− 2·0	+ 4·9	−·0005
08 00	44·2	37·0	61·0	25·6	60·5	−·0029	+·0017	− 6·2	+ 7·6	+·0001
10	41·2	39·0		26·0		−·0022	+·0018	− 8·4	+ 6·5	+·0004
15	41·0	40·6		24·7		−·0016	+·0015	− 8·6	+ 5·1	+·0004
20	41·3	42·0		22·1		−·0012	+·0011	− 8·3	+ 3·8	+·0003
25	42·7	42·5		20·1		−·0010	+·0008	− 7·3	+ 3·0	+·0002
30	44·2	42·6		18·4		−·0009	+·0005	− 6·2	+ 2·3	·0000

1844.
Cape of Good Hope.

September 26.

OBSERVATIONS OF THE MAGNETOMETERS.

The H. F. and V. F. were observed immediately after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
						$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta \psi$	$\Delta \theta$	$\frac{\Delta \phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
26 08 35	46·1	42·8		16·2		−·0009	+·0001	− 4·7	+ 1·7	−·0003
40	47·2	42·7		15·0		−·0010	−·0001	− 3·9	+ 1·5	−·0004
45	47·8	42·5		14·6		−·0010	−·0001	− 3·5	+ 1·5	−·0004
50	47·6	42·0		14·8		−·0012	−·0001	− 3·6	+ 1·8	−·0005
55	47·5	41·8		15·1		−·0013	·0000	− 3·7	+ 2·1	−·0005
09 00	48·0	41·6	60·9	15·1	60·8	−·0013	·0000	− 3·3	+ 2·1	−·0005
05	48·2	41·9		14·6		−·0012	−·0001	− 3·2	+ 1·8	−·0005
10	48·1	41·9		14·8		−·0012	−·0001	− 3·3	+ 1·8	−·0005
15	48·0	41·8		14·8		−·0013	−·0001	− 3·4	+ 2·0	−·0005
20	48·0	41·7		15·0		−·0014	·0000	− 3·4	+ 2·3	−·0005
25	48·0	41·5		15·2		−·0014	·0000	− 3·4	+ 2·3	−·0005
30	47·9	41·3		15·5		−·0015	+·0001	− 3·5	+ 2·6	−·0005
35	47·9	41·2		15·7		−·0015	+·0001	− 3·5	+ 2·6	−·0005
40	47·9	41·2		15·8		−·0015	+·0001	− 3·5	+ 2·6	−·0005
45	47·6	41·2		16·0		−·0016	+·0002	− 3·8	+ 3·0	−·0004
50	47·5	41·1		16·0		−·0017	+·0002	− 3·9	+ 3·1	−·0005
55	47·8	41·1		15·9		−·0017	+·0002	− 3·7	+ 3·1	−·0005
10 00	47·7	41·2	60·7	15·9	60·8	−·0016	+·0002	− 3·8	+ 3·0	−·0004
05	47·7	41·6		15·9		−·0015	+·0002	− 3·8	+ 2·8	−·0004
10	47·8	41·9		15·6		−·0014	+·0001	− 3·7	+ 2·5	−·0004
15	47·7	42·0		15·6		−·0014	+·0001	− 3·8	+ 2·5	−·0004
20	47·6	42·2		15·3		−·0013	+·0001	− 3·8	+ 2·3	−·0004
25	47·8	42·6		15·0		−·0012	·0000	− 3·7	+ 2·0	−·0004
30	48·0	42·8		14·6		−·0011	−·0001	− 3·5	+ 1·7	−·0005
35	48·2	42·8		14·6		+·0011	·0000	− 3·5	+ 1·8	−·0004
40	48·5	43·0		14·2		−·0010	−·0001	− 3·2	+ 1·5	−·0004
45	49·0	43·3		13·7		−·0010	−·0002	− 2·9	+ 1·3	−·0005
50	49·2	43·9		13·3		−·0007	−·0003	− 2·7	+ 0·7	−·0004
55	49·2	43·4		13·3		−·0009	−·0003	− 2·7	+ 1·0	−·0005
11 00	49·0	43·0	60·7	13·9	60·8	−·0011	−·0002	− 2·9	+ 1·5	−·0005
15	49·2	42·8		14·5		−·0012	·0000	− 2·7	+ 2·0	−·0004
30	49·6	43·0		14·5		−·0011	·0000	− 2·5	+ 1·8	−·0004
45	51·2	44·7		11·8		−·0005	−·0005	− 1·3	0·0	−·0005
12 00	51·6	44·7	60·6	11·8	60·5	−·0005	−·0005	− 1·0	0·0	−·0005
30	52·5	44·8		11·8		−·0006	−·0005	− 0·3	+ 0·2	−·0005
13 00	52·0	44·6	60·0	12·4	60·0	−·0008	−·0004	− 0·7	+ 0·7	−·0005
30	52·3	44·5		13·1		−·0010	−·0003	− 0·5	+ 1·2	−·0005
14 00	52·5	44·4	59·7	13·1	59·8	−·0010	−·0003	− 0·4	+ 1·2	−·0005
30	52·8	44·9		13·3		−·0009	−·0002	− 0·2	+ 1·2	−·0004
15 00	52·0	45·0	59·6	13·3	59·7	−·0009	−·0002	− 0·9	+ 1·2	−·0004
30	52·0	45·0		13·6		−·0010	−·0002	− 0·9	+ 1·3	−·0005
16 00	51·9	45·0	59·2	14·1	59·4	−·0010	−·0001	− 1·0	+ 1·5	−·0004
30	52·0	45·7		13·8		−·0008	−·0001	− 1·1	+ 1·2	−·0003
17 00	52·2	45·6	58·7	13·4	58·9	−·0009	−·0001	− 1·0	+ 1·3	−·0004
30	53·2	45·2		13·4		−·0011	−·0001	− 0·8	+ 1·7	−·0005
18 00	53·2	46·0	58·4	13·0	58·6	−·0008	−·0001	− 1·3	+ 1·2	−·0003

VAN DIEMEN ISLAND, 1844. SEPTEMBER 26—27.

1844.
Van Diemen Island.

September 26.

For Mean Monthly Readings, *see* page 388.

26 15 02[a]	78·4	102·1	52·2	103·6	51·2	−·0001	+·0001	+ 0·8	+ 0·2	+·0001
16 02	81·5	102·5	52·7	102·2	51·5	·0000	+·0001	+ 1·1	+ 0·1	+·0001
17 02	83·1	103·1	53·0	103·7	51·7	−·0001	+·0001	+ 1·1	+ 0·2	+·0001
18 02	84·1	104·6	53·3	101·1	52·0	+·0001	+·0001	+ 1·6	0·0	+·0001
19 02	83·2	100·6	53·5	111·8	52·2	−·0011	+·0006	+ 2·8	+ 1·8	+·0004
20 02	81·0	100·2	53·7	115·5	52·5	−·0011	+·0008	+ 2·1	+ 2·0	+·0006
07	82·4	98·0		115·6		−·0016	+·0008	+ 3·2	+ 2·6	+·0005
12	79·9	97·7		114·6		−·0017	+·0007	+ 1·5	+ 2·6	+·0004

(a) The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

1844.
Van Diemen Island.

September 26—27.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
						$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
26 20 17	78·8	97·9		115·6		−·0016	+·0008	+ 0·8	+ 2·6	+·0005
22	77·9	99·0		115·0		−·0014	+·0008	+ 0·3	+ 2·4	+·0006
27	77·5	98·8		108·1		−·0014	+·0005	+ 0·1	+ 2·0	+·0003
32	72·0	100·0		104·0		−·0012	+·0004	− 3·7	+ 1·7	+·0002
37	69·3	106·9		107·6		+·0005	+·0005	− 5·6	0·0	+·0005
42	78·2	105·6		105·2		+·0002	+·0004	+ 0·8	+ 0·2	+·0004
47	81·5	101·9		107·1		−·0007	+·0005	+ 3·2	+ 1·3	+·0004
52	81·3	98·3		106·3		−·0015	+·0005	+ 3·2	+ 2·2	+·0003
57	78·9	97·5		109·2		−·0017	+·0006	+ 1·6	+ 2·5	+·0003
21 02	77·4	98·6	53·8	111·1	52·7	−·0014	+·0007	+ 0·6	+ 2·3	+·0005
07	76·3	99·8		108·0		−·0011	+·0006	− 0·1	+ 1·8	+·0004
12	75·0	100·0		102·9		−·0011	+·0004	− 1·0	+ 1·6	+·0002
17	70·5	100·4		98·0		−·0010	+·0002	− 4·2	+ 1·3	+·0001
22	67·3	103·4		96·1		−·0003	+·0002	− 6·5	+ 0·5	+·0001
27	68·8	105·6		93·0		+·0003	+·0001	− 5·4	− 0·2	+·0001
32	71·4	106·1		91·6		+·0004	·0000	− 3·4	− 0·4	·0000
37	73·7	105·4		93·0		+·0003	+·0001	− 1·8	− 0·2	+·0001
42	75·1	104·3		94·1		·0000	+·0001	− 0·8	+ 0·1	+·0001
47	75·5	103·3		94·6		−·0002	+·0001	− 0·6	+ 0·3	+·0001
52	74·5	103·2		94·8		−·0002	+·0002	− 1·2	+ 0·4	+·0002
57	74·3	103·2		96·6		−·0002	+·0002	− 1·3	+ 0·4	+·0002
22 02	76·6	102·5	54·4	99·3	53·1	−·0004	+·0003	+ 0·3	+ 0·8	+·0002
07	76·9	100·8		100·4		−·0008	+·0004	+ 0·6	+ 1·3	+·0003
12	75·1	101·3		102·5		−·0006	+·0005	− 0·6	+ 1·2	+·0004
17	75·5	100·4		103·3		−·0009	+·0005	− 0·3	+ 1·5	+·0004
22	76·9	98·2		103·7		−·0013	+·0005	+ 0·8	+ 1·9	+·0003
27	74·0	96·5		105·3		−·0017	+·0006	− 1·2	+ 2·5	+·0003
32	70·2	98·5		102·5		−·0013	+·0005	− 4·0	+ 1·9	+·0003
37	66·9	99·7		98·8		−·0010	+·0004	− 6·2	+ 1·5	+·0003
42	62·7	103·4		94·9		−·0001	+·0002	− 9·1	+ 0·3	+·0002
47	66·7	104·0		91·2		·0000	+·0001	− 6·2	+ 0·1	+·0001
52	68·2	102·8		90·0		−·0002	+·0001	− 5·1	+ 0·3	+·0001
57	67·0	101·6		90·6		−·0005	+·0001	− 5·8	+ 0·7	·0000
23 02	64·5	99·9	54·6	89·0	53·5	−·0009	+·0001	− 7·5	+ 1·1	·0000
07	60·5	101·3		89·0		−·0006	+·0001	−10·3	+ 0·8	·0000
12	63·2	102·0		93·1		−·0004	+·0002	− 8·3	+ 0·7	+·0001
17	66·3	100·9		92·3		−·0007	+·0002	− 6·1	+ 1·0	+·0001
22	67·4	100·8		95·0		−·0007	+·0003	− 5·3	+ 1·1	+·0002
27	69·0	100·0		96·6		−·0009	+·0004	− 4·1	+ 1·4	+·0003
32	69·2	99·0		95·9		−·0011	+·0003	− 3·9	+ 1·5	+·0002
37	69·2	98·5		101·0		−·0012	+·0005	− 3·8	+ 1·8	+·0003
42	69·8	98·5		100·7		−·0012	+·0005	− 3·2	+ 1·8	+·0003
47	70·2	98·8		102·3		−·0011	+·0006	− 2·9	+ 1·8	+·0004
52	71·2	99·0		102·3		−·0011	+·0006	− 2·2	+ 1·8	+·0004
57	71·8	99·0		102·9		−·0011	+·0006	− 1·7	+ 1·8	+·0004
27 00 02	72·1	99·7	54·8	103·4	53·8	−·0009	+·0006	− 1·4	+ 1·6	+·0004
07	73·2	99·8		102·8		−·0009	+·0006	− 0·6	+ 1·6	+·0004
12	73·3	99·8		102·5		−·0009	+·0006	− 0·6	+ 1·6	+·0004
17	73·8	100·0		102·2		−·0009	+·0006	− 0·2	+ 1·6	+·0004
22	73·7	100·9		101·1		−·0007	+·0006	− 0·3	+ 1·4	+·0005
27	73·2	100·5		99·3		−·0008	+·0005	− 0·6	+ 1·4	+·0004
32	72·2	—		—		—	—	− 1·3	—	—
01 02	73·2	100·8	54·8	99·9	53·8	−·0008	+·0005	+ 0·7	+ 1·4	+·0004
02 02	73·1	102·1	55·0	94·8	54·0	−·0005	+·0004	+ 0·3	+ 1·0	+·0003
03 02	75·2	105·5	54·8	91·7	54·0	+·0004	+·0003	+ 1·3	− 0·1	+·0003
04 02	73·2	107·0	54·8	84·3	54·0	+·0006	+·0001	− 0·7	− 0·5	+·0002
05 02	75·3	104·2	54·2	93·3	53·5	−·0002	+·0003	+ 0·5	+ 0·5	+·0002
06 02	80·1	103·6	54·0	96·1	53·2	−·0003	+·0004	+ 3·4	+ 0·8	+·0003

1844.
Van Diemen Island.

September 30.

OBSERVATIONS OF THE MAGNETOMETERS. The Declination was observed 2m. before, and the V. F. 1m. after the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
30 13 02	71·0	100·5	53·2	99·5	51·8	−·0006	+·0003	+ 0·1	+ 1·0	+·0002
14 02	76·0	91·5	53·0	121·5	51·8	−·0024	+·0010	+ 1·4	+ 3·7	+·0006
15 02	80·4	95·1	53·0	112·0	51·8	−·0015	+·0006	+ 2·2	+ 2·3	+·0004
16 02	84·4	96·2	53·1	113·0	51·7	−·0014	+·0005	+ 3·2	+ 2·0	+·0003
17 02	88·7	96·8	53·0	118·9	51·6	−·0015	+·0007	+ 5·1	+ 2·4	+·0005
18 02	89·8	99·3	52·8	120·8	51·6	−·0013	+·0007	+ 5·7	+ 2·2	+·0005
19 02	60·4	117·7	52·7	90·5	51·3	+·0026	−·0004	−13·4	− 3·2	−·0001
07	67·1	120·4		81·7		+·0032	−·0007	− 8·5	− 4·2	−·0003
12	71·6	118·0		80·2		+·0027	−·0008	− 5·3	− 3·8	−·0004
17	73·4	115·7		85·3		+·0022	−·0006	− 4·0	− 3·0	−·0003
22	77·1	110·7		93·0		+·0010	−·0003	− 1·2	− 1·4	−·0002
27	78·0	100·8		99·4		−·0012	−·0001	− 0·5	+ 1·2	−·0002
32	72·0	101·8		106·1		−·0010	+·0002	− 4·7	+ 1·3	+·0001
37	70·6	106·9		111·9		+·0002	+·0004	− 5·6	+ 0·2	+·0004
42	74·9	105·7		113·2		−·0001	+·0005	− 2·5	+ 0·7	+·0004
47	74·8	103·8		112·8		−·0005	+·0004	− 2·5	+ 1·0	+·0003
52	73·0	105·9		115·3		·0000	+·0005	− 3·7	+ 0·5	+·0004
57	75·5	103·9		116·5		−·0005	+·0006	− 1·8	+ 1·2	+·0005
20 02	74·9	102·4	52·7	119·6	51·5	−·0008	+·0007	− 2·2	+ 1·6	+·0005
07	76·5	99·3		123·2		−·0015	+·0008	− 1·0	+ 2·5	+·0005
12	79 2	99·3		128·1		−·0015	+·0010	+ 1·1	+ 2·7	+·0007
17	78·1	97·4		130·0		−·0020	+·0011	+ 0·4	+ 3·3	+·0008
22	77·3	97·3		131·5		−·0020	+·0011	− 0·1	+ 3·3	+·0008
27	77·7	97·4		132·2		−·0020	+·0012	+ 0·2	+ 3·5	+·0009
32	75·8	99·4		132·2		−·0015	+·0012	− 1·0	+ 2·9	+·0009
37	77·8	97·8		131·2		−·0018	+·0012	+ 0·5	+ 3·2	+·0009
42	75·2	97·8		128·7		−·0018	+·0011	− 1·3	+ 3·1	+·0008
47	72·0	98·7		125·1		−·0016	+·0009	− 3·4	+ 2·7	+·0006
52	70·7	102·5		124·8		−·0008	+·0009	− 4·3	+ 1·8	+·0007
57	76·7	98·7		119·6		−·0016	+·0007	+ 0·1	+ 2·5	+·0004
21 02	70·5	97·7	52·8	113·9	51·6	−·0019	+·0005	− 4·3	+ 2·6	+·0002
07	59·3	101·7		102·5		−·0009	+·0001	−12·2	+ 1·1	·0000
12	55·8	109·8		97·3		+·0009	−·0001	−14·6	− 1·1	·0000
17	63·6	113·5		91·3		+·0018	−·0003	− 9·1	− 2·3	−·0001
22	68·2	112·9		84·3		+·0016	−·0005	− 5·8	− 2·3	−·0003
27	71·6	109·7		85·3		+·0009	−·0005	− 3·4	− 1·5	−·0004
32	69·5	106·6		88·0		+·0002	−·0004	− 4·9	− 0·7	−·0003
37	70·0	104·2		93·7		−·0004	−·0002	− 4·5	+ 0·2	−·0002
42	70·4	102·1		99·0		−·0008	·0000	− 4·2	+ 0·9	−·0001
47	70·8	102·8		104·7		−·0007	+·0002	− 4·0	+ 1·0	+·0001
52	74·6	99·6		109·7		−·0014	+·0004	− 1·1	+ 1·9	+·0002
57	76·8	95·6		115·8		−·0023	+·0006	+ 0·4	+ 3·1	+·0003
22 02	74·0	91·3	52·8	83·6	51·7	−·0033	−·0005	− 1·5	+ 3·0	−·0008
07	68·1	94·1		78·8		−·0027	−·0007	− 5·7	+ 2·2	−·0009
12	68·6	95·4		77·0		−·0024	−·0008	− 5·3	+ 1·7	−·0010
17	70·7	95·5		78·6		−·0024	−·0007	− 3·7	+ 1·8	−·0009
22	69·6	96·3		80·5		−·0022	−·0006	− 4·4	+ 1·7	−·0008
27	72·1	97·8		81·0		−·0018	−·0006	− 2·5	+ 1·3	−·0007
32	66·4	98·8		90·9		−·0016	−·0003	− 6·6	+ 1·4	−·0004
37	68·0	99·5		92·5		−·0014	−·0002	− 5·4	+ 1·3	−·0003
42	66·3	98·8		99·8		−·0016	+·0001	− 6·5	+ 1·8	−·0001
47	65·5	101·3		98·5		−·0010	·0000	− 7·0	+ 1·1	−·0001
52	66·0	100·1		96·7		−·0013	·0000	− 6·6	+ 1·4	−·0001
57	65·3	99·5		98·6		−·0014	·0000	− 7·0	+ 1·5	−·0001
23 02	68·0	97·4	52·8	98·6	51·8	−·0019	·0000	− 5·1	+ 2·0	−·0002

1844.
Van Diemen Island.

October 1.

VAN DIEMEN ISLAND, 1844. OCTOBER 1—2.

MEAN MONTHLY READINGS OF THE MAGNETOMETERS.

Mean Göttingen Time.	Declination.	H. F. at 55°·1.	V. F. at 54°·0.	Mean Göttingen Time.	Declination.	H. F. at 55°·1.	V. F. at 54°·0.
Hours.	Sc. Div.	Sc. Div.	Sc. Div.	Hours.	Sc. Div.	Sc. Div.	Sc. Div.
00	74·1	105·2	98·0	12	69·2	101·6	90·2
01	73·1	105·1	94·4	13	71·3	100·6	92·7
02	72·8	105·0	94·7	14	75·1	99·9	94·9
03	73·7	105·3	94·2	15	79·4	100·7	96·5
04	74·2	105·8	92·9	16	82·7	103·2	96·8
05	74·1	105·1	92·3	17	83·7	104·8	96·2
06	74·4	105·6	90·8	18	82·9	106·3	96·2
07	74·9	105·8	90·1	19	80·6	107·3	96·6
08	74·8	106·1	89·3	20	78·7	106·7	97·4
09	73·6	105·6	87·4	21	77·0	105·9	98·1
10	71·3	104·6	87·6	22	76·1	105·5	96·8
11	69·5	103·5	87·0	23	74·5	106·0	95·3

Coefficients (A).
Approximate Absolute Values (B).

(A)
- Declin. $a = 0'\cdot71$
- H. F. $k = \cdot000229$, $q = \cdot000230$
- V. F. $k = \cdot000036$, $q = \cdot00021$

(B) Approx.
- $\psi = -9°\,55'$
- $X = 4\cdot51$
- $Y = 12\cdot86$
- $\theta = -70°\,37'$
- $\phi = 13\cdot62$

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
1 00 02	62·7	90·5	53·0	118·1	51·8	−·0039	+·0003	− 8·1	+ 4·5	−·0002
07	62·6	94·2		114·6		−·0030	+·0001	− 8·1	+ 3·3	−·0002
12	64·7	96·2		112·2		−·0026	+·0001	− 6·5	+ 2·9	−·0002
17	71·1	93·5		113·5		−·0032	+·0001	− 2·0	+ 3·6	−·0003
22	73·5	88·2		108·6		−·0044	·0000	− 0·2	+ 4·7	−·0005
27	69·7	87·0		111·6		−·0047	+·0001	− 2·8	+ 5·2	−·0004
32	68·2	87·8		106·5		−·0045	−·0001	− 3·9	+ 4·7	−·0006
37	65·2	90·0		91·7		−·0040	−·0006	− 5·9	+ 3·7	−·0010
42	47·0	97·5		83·9		−·0022	−·0009	−18·8	+ 1·4	−·0010
47	50·0	103·5		78·2		−·0009	−·0010	−16·6	− 0·1	−·0008
52	49·6	102·0		75·2		−·0012	−·0012	−16·8	0·0	−·0012
57	65·0	97·0		74·0		−·0024	−·0012	− 5·8	+ 1·3	−·0013
01 02	59·0	92·5	53·0	76·7	52·0	−·0034	−·0011	−10·0	+ 2·5	−·0014
07	56·0	95·0		81·6		−·0028	−·0009	−12·2	+ 2·0	−·0011
12	58·0	93·5		83·7		−·0032	−·0008	−10·7	+ 2·6	−·0011
17	58·5	89·0		85·5		−·0042	−·0008	−10·3	+ 3·7	−·0012
22	55·0	86·6		86·4		−·0047	−·0007	−12·8	+ 4·3	−·0011
27	49·0	88·7		85·5		−·0043	−·0008	−17·0	+ 3·8	−·0012
32	47·2	94·0		88·8		−·0030	−·0006	−18·3	+ 2·6	−·0009
37	53·5	96·9		89·3		−·0024	−·0006	−13·8	+ 1·9	−·0008
42	61·1	94·9		88·7		−·0028	−·0006	− 8·4	+ 2·4	−·0008
47	59·5	91·7		87·1		−·0035	−·0007	− 9·5	+ 3·0	−·0010
52	56·1	91·5		90·1		−·0036	−·0006	−11·9	+ 3·2	−·0009
57	56·1	91·7		92·1		−·0035	−·0005	−11·9	+ 3·2	−·0008
02 02	56·9	90·4	53·0	98·3	52·0	−·0038	−·0003	−11·3	+ 3·8	−·0007
07	56·4	91·0		93·3		−·0037	−·0005	−11·8	+ 3·5	−·0008
12	56·3	91·9		93·8		−·0035	−·0005	−11·9	+ 3·2	−·0008
17	57·1	92·6		93·5		−·0034	−·0005	−11·3	+ 3·1	−·0008
22	58·1	93·5		93·4		−·0032	−·0005	−10·7	+ 2·9	−·0008
27	58·9	93·3		92·3		−·0032	−·0005	−10·1	+ 2·9	−·0008
32	59·0	92·1		92·4		−·0035	−·0005	−10·1	+ 3·2	−·0008
37	58·5	92·2		93·8		−·0035	−·0005	−10·5	+ 3·2	−·0008
42	59·3	93·1		93·8		−·0033	−·0005	−10·0	+ 3·0	−·0008
47	59·2	92·9		92·8		−·0033	−·0005	−10·1	+ 3·0	−·0008
52	59·4	93·4		93·2		−·0032	−·0005	−10·0	+ 2·9	−·0008
57	58·6	93·4		91·3		−·0032	−·0006	−10·7	+ 2·8	−·0009
03 02	61·4	99·9	53·0	69·2	51·8	−·0017	−·0014	− 8·7	+ 0·3	−·0014
07	61·1	99·5		73·8		−·0018	−·0012	− 8·9	+ 0·7	−·0013
12	61·9	98·7		75·8		−·0020	−·0011	− 8 4	+ 1·0	−·0012

1844.
Van Diemen Island.

October 1.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
						$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta \psi$	$\Delta \theta$	$\frac{\Delta \phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
1 03 17	63·0	96·9		81·1		−·0024	−·0009	− 7·7	+ 1·6	−·0011
22	67·4	93·4		83·2		−·0033	−·0008	− 4·7	+ 2·7	−·0011
27	67·1	89·3		88·8		−·0042	−·0006	− 4·9	+ 3·9	−·0010
32	66·3	88·8		91·5		−·0043	−·0005	− 5·4	+ 4·1	−·0009
37	65·6	90·3		88·7		−·0040	−·0006	− 6·0	+ 3·7	−·0010
42	65·1	90·1		84·0		−·0041	−·0008	− 6·3	+ 3·6	−·0012
47	62·9	90·4		82·2		−·0040	−·0008	− 7·9	+ 3·5	−·0011
52	63·1	89·8		81·3		−·0041	−·0009	− 7·8	+ 3·5	−·0012
57	62·0	91·5		81·0		−·0038	−·0009	− 8·6	+ 3·1	−·0012
04 02	58·5	93·0	53·0	91·1	52·0	−·0034	−·0005	−11·2	+ 3·1	−·0008
07	58·4	92·1		91·1		−·0036	−·0005	−11·3	+ 3·3	−·0008
12	58·0	91·5		92·8		−·0038	−·0004	−11·5	+ 3·7	−·0008
17	58·6	92·8		93·5		−·0034	−·0004	−11·1	+ 3·2	−·0007
22	60·1	94·7		90·1		−·0030	−·0005	−10·0	+ 2·7	−·0008
27	60·0	95·9		88·4		−·0027	−·0006	−10·0	+ 2·3	−·0008
32	61·1	—		—		—	—	− 9·3	—	—
37	62·7	99·3		82·1		−·0019	−·0009	− 8·1	+ 1·2	−·0009
42	60·2	104·2		76·5		−·0007	−·0010	− 9·8	− 0·3	−·0010
47	63·2	104·4		73·5		−·0007	−·0011	− 7·7	− 0·4	−·0011
52	63·7	103·0		72·1		−·0009	−·0012	− 7·4	− 0·3	−·0012
57	62·7	102·0		71·8		−·0012	−·0012	− 8·1	0·0	−·0012
05 02	62·6	92·9	53·2	78·0	51·8	−·0032	−·0010	− 8·2	+ 2·4	−·0012
07	63·2	98·8		77·0		−·0019	−·0010	− 7·7	+ 1·0	−·0011
12	68·2	99·4		71·6		−·0018	−·0012	− 4·3	+ 0·7	−·0013
17	69·9	100·1		66·9		−·0016	−·0014	− 3·0	+ 0·2	−·0014
22	71·1	100·4		63·5		−·0016	−·0015	− 2·2	+ 0·1	−·0015
27	70·2	102·0		59·0		−·0012	−·0017	− 2·8	− 0·5	−·0016
32	70·0	102·3		55·8		−·0012	−·0018	− 3·0	− 0·7	−·0017
37	68·4	101·8		53·6		−·0013	−·0018	− 4·2	− 0·5	−·0017
42	66·7	100·7		53·7		−·0015	−·0018	− 5·4	− 0·3	−·0018
47	64·4	100·4		51·0		−·0016	−·0019	− 7·0	− 0·3	−·0019
52	62·5	101·2		51·0		−·0015	−·0019	− 8·4	− 0·4	−·0019
57	61·2	102·7		52·3		−·0012	−·0019	− 9·3	− 0·8	−·0018
06 02	61·0	103·7	53·0	52·4	51·7	−·0009	−·0019	− 9·5	− 1·1	−·0018
07	63·2	103·5		53·1		−·0010	−·0018	− 7·9	− 0·9	−·0017
12	64·3	103·4		54·4		−·0010	−·0018	− 7·2	− 0·9	−·0017
17	65·8	102·8		56·2		−·0011	−·0017	− 6·2	− 0·7	−·0016
22	65·5	102·5		59·2		−·0012	−·0016	− 6·5	− 0·4	−·0016
27	67·0	100·8		63·2		−·0016	−·0015	− 5·4	+ 0·1	−·0015
32	68·2	98·1		66·7		−·0023	−·0013	− 4·6	+ 1·1	−·0014
37	68·1	95·3		75·4		−·0029	−·0010	− 4·7	+ 2·0	−·0012
42	69·8	94·0		83·2		−·0032	−·0007	− 3·4	+ 2·7	−·0010
47	72·2	93·4		88·2		−·0033	−·0006	− 1·8	+ 2·9	−·0009
52	74·5	93·4		92·0		−·0034	−·0004	− 0·2	+ 3·2	−·0007
57	77·4	94·1		94·2		−·0032	−·0003	+ 1·8	+ 3·1	−·0006
07 02	79·3	95·0	52·8	94·2	51·7	−·0030	−·0003	+ 3·1	+ 2·9	−·0006
07	80·8	97·0		90·4		−·0026	−·0005	+ 4·2	+ 2·3	−·0007
12	83·0	100·1		86·6		−·0019	−·0006	+ 5·8	+ 1·4	−·0007
17	83·8	102·6		81·1		−·0013	−·0008	+ 6·3	+ 0·5	−·0009
22	82·2	102·0		77·4		−·0014	−·0009	+ 5·2	+ 0·5	−·0010
27	81·0	103·3		73·5		−·0011	−·0010	+ 4·4	+ 0·1	−·0010
32	80·8	102·3		73·4		−·0014	−·0010	+ 4·2	+ 0·4	−·0010
37	80·2	101·9		73·0		−·0015	−·0010	+ 3·9	+ 0·5	−·0011
42	79·6	101·2		72·8		−·0016	−·0010	+ 3·4	+ 0·7	−·0011
47	80·8	100·3		75·8		−·0018	−·0009	+ 4·3	+ 1·0	−·0010
52	82·9	98·8		79·8		−·0022	−·0008	+ 5·8	+ 1·5	−·0009
57	82·7	98·1		81·3		−·0024	−·0007	+ 5·6	+ 1·8	−·0009
08 02	82·7	108·3	52·8	82·0	52·0	·0000	−·0007	+ 5·6	− 0·8	−·0006
07	83·7	101·3		82·0		−·0016	−·0007	+ 6·4	+ 1·0	−·0008
12	85·1	102·3		82·2		−·0014	−·0007	+ 7·5	+ 0·8	−·0008
17	85·5	101·9		77·1		−·0015	−·0009	+ 7·8	+ 0·7	−·0010
22	84·1	101·1		75·5		−·0017	−·0010	+ 6·9	+ 0·8	−·0011

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OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours. $\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
1 08 27	82·5	100·4		74·5		−·0018	−·0011	+ 5·8	+ 0·8	−·0012
32	82·9	101·1		75·9		−·0017	−·0011	+ 6·2	+ 0·7	−·0012
37	82·1	100·1		76·7		−·0019	−·0011	+ 5·7	+ 0·9	−·0012
42	82·7	99·4		79·0		−·0021	−·0010	+ 6·2	+ 1·2	−·0011
47	82·7	—		—		—	—	+ 6·3	—	—
09 02	82·2	99·9	52·4	80·1	50·2	−·0019	−·0011	+ 6·1	+ 0·9	−·0012
10 02	79·0	94·4	52·0	92·7	51·0	−·0031	−·0004	+ 5·5	+ 2·9	−·0007
11 02	79·5	98·5	51·8	87·0	50·8	−·0019	−·0007	+ 7·1	+ 1·3	−·0008
12 02	75·2	98·8	51·5	87·6	50·5	−·0015	−·0008	+ 4·3	+ 0·8	−·0009
13 02	76·3	98·3	51·2	97·1	50·0	−·0014	−·0007	+ 3·6	+ 0·8	−·0008
14 02	77·7	99·0	51·0	97·6	49·8	−·0012	−·0008	+ 1·8	+ 0·4	−·0008
15 02	79·0	100·8	51·0	100·4	49·8	−·0009	−·0007	− 0·3	+ 0·2	−·0007
16 02	80·3	103·3	51·0	100·7	49·8	−·0009	−·0007	− 1·7	+ 0·2	−·0007
17 02	81·1	105·3	51·0	100·2	49·8	−·0008	−·0007	− 1·8	+ 0·1	−·0007
18 02	83·0	109·2	51·0	97·1	49·8	−·0003	−·0009	+ 0·1	− 0·7	−·0008
19 02	82·1	109·4	51·0	100·8	50·0	−·0005	−·0007	+ 1·1	− 0·2	−·0007
20 02	81·5	109·2	51·0	102·5	50·0	−·0004	−·0007	+ 2·0	− 0·3	−·0007
21 02	79·2	107·5	51·2	104·5	50·2	−·0005	−·0006	+ 1·5	− 0·1	−·0006
22 02	78·1	106·2	51·0	103·2	50·2	−·0008	−·0006	+ 1·4	+ 0·2	−·0006
23 02	78·7	107·5	51·0	102·7	50·0	−·0006	−·0006	+ 2·9	0·0	−·0006
2 00 02	77·8	108·1	51·0	104·1	50·0	−·0003	−·0006	+ 2·6	− 0·3	−·0006
01 02	72·5	106·3	50·8	106·0	50·0	−·0007	−·0004	− 0·4	+ 0·3	−·0004
02 02	76·0	106·3	50·5	107·0	50·0	−·0008	−·0004	+ 2·2	+ 0·4	−·0004
03 02	75·0	106·3	50·5	107·3	49·8	−·0008	−·0004	+ 0·9	+ 0·4	−·0004
04 02	75·0	106·2	50·4	108·5	49·6	−·0010	−·0004	+ 0·6	+ 0·7	−·0005
05 02	74·4	103·3	50·4	104·9	49·6	−·0015	−·0005	+ 0·2	+ 0·1	−·0006
06 02	76·8	107·5	50·2	107·5	49·5	−·0007	−·0003	+ 1·7	+ 0·4	−·0003
07 02	79·1	120·0	50·0	82·1	49·●	+·0021	−·0012	+ 2·9	− 3·6	−·0008
12	74·5	114·5		81·6		+·0008	−·0013	− 0·3	− 2·3	−·0011
17	73·8	114·0		80·0		+·0007	−·0013	− 0·8	− 2·2	−·0011
22	72·7	113·0		80·5		+·0005	−·0013	− 1·5	− 1·9	−·0011
27	71·5	111·1		83·9		·0000	−·0012	− 2·4	− 1·3	−·0011
32	71·7	109·5		88·2		−·0004	−·0010	− 2·2	− 0·7	−·0009
37	71·4	108·5		90·3		−·0006	−·0010	− 2·4	− 0·4	−·0010
42	70·9	108·0		91·9		−·0007	−·0009	− 2·7	− 0·2	−·0009
47	72·1	107·6		95·5		−·0008	−·0008	− 1·9	0·0	−·0008
52	72·4	106·4		97·7		−·0011	−·0007	− 1·7	+ 0·4	−·0007
57	72·8	106·0		99·9		−·0012	−·0006	− 1·4	+ 0·7	−·0007
08 02	73·0	105·5	50·0	101·5	49·1	−·0013	−·0006	− 1·3	+ 0·8	−·0007
09 02	74·6	102·6	49·9	98·7	49·0	−·0019	−·0006	+ 0·7	+ 1·4	−·0007
10 02	72·5	102·0	49·7	99·1	48·8	−·0018	−·0007	+ 0·8	+ 1·2	−·0008

1844.
Toronto.

September 30.

For Mean Monthly Readings, *see* page 389.

TORONTO, 1844. SEPTEMBER 30.

30 18 02	134·7	95·9	53·5	72·9	54·3	−·0059	−·0006	+ 9·5	+ 4·5	−·0009
19 02	127·4	19·0	53·2	27·5	55·1	−·0123	−·0032	+ 5·8	+ 7·7	−·0038
07	135·0	53·4		29·8		−·0093	−·0030	+11·2	+ 5·3	−·0034
12	128·3	55·7		16·5		−·0091	−·0038	+ 6·3	+ 4·5	−·0041
17	111·2	59·1		22·2		−·0088	−·0035	− 6·1	+ 4·5	−·0038
22	100·8	49·7		19·7		−·0096	−·0036	−13·6	+ 5·1	−·0040
27	96·2	50·4		19·5		−·0095	−·0036	−17·0	+ 5·0	−·0040
32	94·1	30·6		12·2		−·0113	−·0041	−18·6	+ 6·1	−·0040
37	102·1	42·8		12·3		−·0102	−·0040	−12·8	+ 5·2	−·0044
42	104·9	26·9		11·8		−·0116	−·0041	−10·9	+ 6·3	−·0046
47	109·3	37·0		15·5		−·0107	−·0038	− 7·8	+ 5·8	−·0042
52	112·6	47·2		19·1		−·0098	−·0036	− 5·4	+ 5·2	−·0040
57	118·0	58·5		17·5		−·0088	−·0037	− 1·5	+ 4·3	−·0040
20 02	118·3	61·6	53·2	13·8	55·3	−·0086	−·0039	− 1·4	+ 4·0	−·0042
07	112·0	54·9		13·3		−·0092	−·0039	− 6·0	+ 4·5	−·0042
12	107·0	58·6		14·3		−·0089	−·0039	− 9·7	+ 4·2	−·0042
17	101·5	81·0		27·4		−·0069	−·0031	−13·6	+ 3·2	−·0033

1844.
Toronto.

September 30.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
						$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta \psi$	$\Delta \theta$	$\frac{\Delta \phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
30 20 22	108·2	123·2		30·2		−·0033	−·0029	− 8·8	+ 0·3	−·0029
27	108·2	135·2		35·4		−·0023	−·0026	− 8·8	− 0·2	−·0026
32	115·6	137·0		32·7		−·0021	−·0028	− 3·5	− 0·6	−·0028
37	112·3	137·1		29·8		−·0022	−·0030	− 5·9	− 0·7	−·0030
42	126·6	118·3		19·8		−·0038	−·0036	+ 4·4	+ 0·2	−·0036
47	134·3	95·1		22·1		−·0059	−·0035	+10·0	+ 2·0	−·0037
52	140·3	94·4		14·8		−·0060	−·0040	+14·2	+ 1·7	−·0041
57	139·3	73·6		9·1		−·0078	−·0043	+13·5	+ 3·0	−·0045
21 02	139·5	69·7	52·6	12·2	54·9	−·0082	−·0041	+13·6	+ 3·5	−·0044
07	134·1	51·2		10·1		−·0098	−·0043	+ 9·8	+ 4·6	−·0047
12	128·2	64·2		7·4		−·0087	−·0045	+ 5·5	+ 3·6	−·0048
17	123·1	80·6		9·3		−·0073	−·0044	+ 1·8	+ 2·4	−·0046
22	119·4	83·4		9·3		−·0071	−·0044	− 0·7	+ 2·3	−·0046
27	114·8	84·5		17·1		−·0071	−·0039	− 4·0	+ 2·7	−·0041
32	103·9	107·4		31·1		−·0051	−·0030	−11·9	+ 1·8	−·0031
37	96·1	104·8		31·1		−·0054	−·0030	−17·4	+ 2·0	−·0032
42	88·8	93·6		33·4		−·0064	−·0029	−22·7	+ 3·0	−·0031
47	85·6	106·5		32·8		−·0053	−·0029	−24·9	+ 2·0	−·0031
52	85·7	109·0		34·8		−·0051	−·0028	−24·9	+ 1·9	−·0030
57	91·3	132·6		38·8		−·0031	−·0026	−20·8	+ 0·4	−·0026
22 02	94·5	143·6	52·2	44·5	54·9	−·0022	−·0023	−18·4	− 0·1	−·0023
07	97·6	141·3		41·1		−·0024	−·0025	−16·2	− 0·1	−·0025
12	95·7	130·3		39·5		−·0033	−·0026	−17·6	+ 0·6	−·0026
17	94·5	114·6		34·2		−·0047	−·0029	−18·4	+ 1·5	−·0030
22	92 0	101·1		30·7		−·0058	−·0031	−20·3	+ 2·3	−·0033
27	89·7	92·6		29·4		−·0066	−·0032	−21·9	+ 2·9	−·0034
32	86·6	79·9		31·8		−·0076	−·0030	−24·2	+ 3·9	−·0033
37	87·8	87·1		31·1		−·0070	−·0031	−23·1	+ 3·3	−·0034
42	91·6	74·8		21·3		−·0080	−·0037	−20·5	+ 3·6	−·0040
47	90·3	92·2		25·8		−·0065	−·0034	−21·4	+ 2·6	−·0036
52	92·9	94·8		41·3		−·0063	−·0025	−19·5	+ 3·2	−·0027
57	91·2	101·9		45·6		−·0057	−·0022	−20·8	+ 3·0	−·0024
23 02	85·2	94·6	52·0	42·8	54·5	−·0063	−·0024	−25·1	+ 3·3	−·0027
07	78·5	104·5		47·6		−·0054	−·0021	−30·1	+ 2·8	−·0023
12	78·7	127·1		44·1		−·0035	−·0023	−30·2	+ 1·0	−·0024
17	84·9	104·4		44·2		−·0055	−·0023	−26·0	+ 2·7	−·0025
22	80·8	105·8		44·8		−·0055	−·0023	−29·2	+ 2·7	−·0025
27	83·1	114·2		47·6		−·0048	−·0021	−27·8	+ 2·3	−·0023
32	85·3	123·4		51·3		−·0040	−·0019	−26·4	+ 1·8	−·0020
37	90·0	118·5		51·8		−·0045	−·0019	−23·2	+ 2·2	−·0021
42	92·9	121·9		52·3		−·0043	−·0019	−21·4	+ 2·0	−·0021
47	89·8	122·9		53·6		−·0042	−·0018	−23·9	+ 2·0	−·0020
52	89·0	114·1		47·4		−·0050	−·0022	−24·7	+ 2·4	−·0024
57	92·3	110·7		48·6		−·0054	−·0022	−22·5	+ 2·7	−·0024

1844. Toronto. — October 1.

TORONTO, 1844. OCTOBER 1.

MEAN MONTHLY READINGS OF THE MAGNETOMETERS.

Mean Göttingen Time.	Declination.	H. F. at 53°·3.	V. F. at 53°·4.	Mean Göttingen Time.	Declination.	H. F. at 53°·3.	V. F. at 53°·4.
Hours.	Sc. Div.	Sc. Div.	Sc. Div.	Hours.	Sc. Div.	Sc. Div.	Sc. Div.
00	119·2	231·8	131·0	12	117·4	239·2	134·9
01	119·6	230·7	132·6	13	118·3	238·3	135·2
02	121·2	227·1	133·5	14	118·7	236·5	135·4
03	120·9	222·3	134·0	15	120·0	236·7	134·8
04	118·1	220·1	133·4	16	119·3	235·1	134·0
05	114·6	222·0	133·5	17	119·4	235·7	133·5
06	112·0	225·5	134·0	18	119·1	224·9	133·5
07	111·7	231·4	135·0	19	118·9	230·9	130·8
08	112·7	236·6	135·4	20	118·4	232·3	131·9
09	114·7	238·6	136·1	21	117·8	231·8	131·3
10	116·2	241·7	136·0	22	119·2	231·8	130·6
11	117·5	240·3	135·6	23	119·5	231·2	131·4

Coefficients (A), Approximate Absolute Values (B).

(A)
- Declin. $a = 0'\cdot721$
- H. F. $k = \cdot000087$, $q = \cdot00027$
- V. F. $k = \cdot000062$, $q = \cdot00007$

(B) Approx.
- $\psi = 1°\,26'$
- $X = 3\cdot54$
- $Y = 13\cdot44$
- $\theta = 75°\,16'$
- $\phi = 13\cdot90$

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
1 00 02	99·3	184·8	51·5	89·4	53·8	−·0046	−·0026	− 14·3	+ 1·7	−·0027
07	102·9	181·3		93·5		−·0049	−·0023	− 11·7	+ 2·2	−·0025
12	105·3	183·3		99·4		−·0047	−·0020	− 10·1	+ 2·3	−·0022
17	101·5	186·0		104·3		−·0045	−·0017	− 12·8	+ 2·4	−·0019
22	97·7	187·3		107·4		−·0043	−·0015	− 15·5	+ 2·4	−·0017
27	93·5	177·8		98·9		−·0051	−·0020	− 18·6	+ 2·6	−·0022
32	87·8	177·0		99·4		−·0052	−·0020	− 22·7	+ 2·7	−·0022
37	84·4	167·0		99·4		−·0061	−·0020	− 25·2	+ 3·5	−·0023
42	84·1	176·0		109·2		−·0053	−·0014	− 25·5	+ 3·3	−·0017
47	80·7	178·5		109·8		−·0051	−·0014	− 28·0	+ 3·1	−·0016
52	79·4	184·6		107·3		−·0045	−·0016	− 28·9	+ 2·4	−·0018
57	70·7	187·5		104·9		−·0043	−·0017	− 35·2	+ 2·2	−·0019
01 02	74·4	194·8	51·5	99·6	53·1	−·0036	−·0021	−32·5	+ 1·3	−·0022
07	81·4	197·5		100·6		−·0033	−·0020	−27·6	+ 1·1	−·0021
12	87·5	200·0		102·1		−·0031	−·0019	−23·3	+ 1·0	−·0020
17	89·7	210·3		102·6		−·0022	−·0019	−21·8	+ 0·2	−·0019
22	91·1	211·0		102·8		−·0021	−·0019	−20·9	+ 0·2	−·0019
27	91·0	207·0		103·5		−·0024	−·0018	−21·1	+ 0·5	−·0018
32	95·0	208·0		105·4		−·0022	−·0017	−18·3	+ 0·4	−·0017
37	97·3	209·0		107·1		−·0021	−·0016	−16·7	+ 0·4	−·0016
42	98·5	211·5		110·4		−·0019	−·0014	−15·9	+ 0·4	−·0014
47	96·7	213·8		112·3		−·0016	−·0013	−17·4	+ 0·2	−·0013
52	96·0	217·3		113·1		−·0013	−·0012	−17·9	+ 0·1	−·0012
57	97·0	218·3		113·3		−·0012	−·0012	−17·4	0·0	−·0012
02 02	98·1	219·0	52·0	113·3	54·0	−·0011	−·0012	−16·7	− 0·1	−·0012
07	99·3	219·5		114·1		−·0010	−·0012	−15·7	− 0·2	−·0012
12	100·1	221·0		117·1		−·0008	−·0010	−15·1	− 0·2	−·0010
17	100·1	221·0		117·8		−·0007	−·0009	−15·1	− 0·2	−·0009
22	100·5	220·0		118·4		−·0008	−·0009	−14·8	− 0·1	−·0009
27	102·5	218·5		118·7		−·0008	−·0009	−13·4	− 0·1	−·0009
32	104·1	216·0		119·3		−·0010	−·0009	−12·1	+ 0·1	−·0009
37	106·3	218·4		120·8		−·0008	−·0008	−10·6	0·0	−·0008
42	107·6	215·0		121·1		−·0010	−·0008	− 9·7	+ 0·2	−·0008
47	108·0	215·0		122·1		−·0010	−·0007	− 9·4	+ 0·2	−·0007
52	107·1	213·1		122·1		−·0011	−·0007	−10·0	+ 0·3	−·0007
57	107·9	210·0		122·6		−·0013	−·0007	− 9·4	+ 0·5	−·0007
03 02	108·8	208·0	52·7	123·1	53·9	−·0014	−·0006	− 8·8	+ 0·7	−·0006

1844.
Cape of Good Hope.

September 30.

For Mean Monthly Readings, *see* page 390.

CAPE OF GOOD HOPE, 1844. SEPTEMBER 30.

OBSERVATIONS OF THE MAGNETOMETERS.

The H. F. and V. F. were observed immediately after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
						$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
30 20 00	49·9	41·2	61·5	16·9	61·7	−·0022	+·0003	− 1·5	+ 4·1	−·0006
21 00	48·6	39·4	61·5	17·4	61·7	−·0031	+·0002	− 0·8	+ 5·4	−·0010
22 00	47·5	39·2	61·7	15·4	61·8	−·0031	·0000	− 0·8	+ 5·1	−·0011
23 00	46·6	36·2	61·9	15·1	62·0	−·0037	+·0002	− 2·1	+ 6·4	−·0012
15	47·9	36·7		13·5		−·0035	·0000	− 1·4	+ 5·8	−·0013
30	48·1	36·6		13·0		−·0035	·0000	− 1·7	+ 5·8	−·0013
45	49·4	36·6		11·8		−·0034	−·0002	− 1·0	+ 5·3	−·0013

1844.
Cape of Good Hope.

October 1.

OCTOBER 1.

MEAN MONTHLY READINGS OF THE MAGNETOMETERS.

Mean Göttingen Time.	Declination.	H. F. at 63°·0.	V. F. at 62°·5.	Mean Göttingen Time.	Declination.	H. F. at 63°·0.	V. F. at 62°·5.
Hours.	Sc. Div.	Sc. Div.	Sc. Div.	Hours.	Sc. Div.	Sc. Div.	Sc. Div.
00	52·9	41·2	3·0	12	51·9	42·6	6·9
01	54·1	42·1	3·9	13	51·8	42·6	7·1
02	54·1	42·8	5·9	14	51·4	42·7	7·4
03	52·9	42·5	8·2	15	51·4	43·1	7·1
04	51·4	42·0	9·6	16	51·1	43·3	7·1
05	50·9	41·7	8·9	17	50·9	43·6	7·2
06	51·3	41·7	8·2	18	50·0	44·3	7·8
07	51·6	41·2	7·9	19	48·6	45·2	8·4
08	51·6	41·2	7·9	20	46·8	45·4	8·5
09	51·6	41·9	7·4	21	46·6	44·1	7·4
10	51·9	41·8	7·2	22	48·3	42·6	4·8
11	51·9	42·2	7·1	23	50·7	41·7	3·5

Coefficients (A), Approximate Absolute Values (B.)

(A) Declin. $a = 0'·751$

H. F. $k = ·00022$, $q = ·00022$

V. F. $k = ·00014$, $q = ·00005$

(B) Approx. $\psi = 29° 05'$, $X = 4·46$, $Y = 6·00$, $\theta = -53° 19'$, $\phi = 7·50$

OBSERVATIONS OF THE MAGNETOMETERS.

The H. F. and V. F. were observed immediately after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
						$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
1 00 00	50·0	36·2	62·3	11·3	62·3	−·0013	+·0012	− 2·2	+ 4·1	+·0003
15	50·2	36·4		11·3		−·0012	+·0011	− 2·3	+ 3·8	+·0003
30	50·9	36·0		11·3		−·0014	+·0011	− 2·0	+ 4·1	+·0002
45	51·8	33·6		12·7		−·0019	+·0013	− 1·5	+ 5·2	+·0002
01 00	52·6	32·8	62·5	13·8	62·5	−·0022	+·0014	− 1·1	+ 5·9	+·0001
15	53·9	33·8		13·0		−·0020	+·0012	− 0·2	+ 5·2	+·0002
30	53·8	33·1		13·4		−·0022	+·0012	− 0·2	+ 5·6	·0000
45	53·9	34·1		13·0		−·0019	+·0011	− 0·2	+ 4·9	·0000
02 00	53·5	34·1	62·7	13·4	62·7	−·0020	+·0011	− 0·5	+ 5·1	·0000
15	53·1	35·0		13·4		−·0017	+·0010	− 0·5	+ 4·4	·0000
30	53·1	35·1		13·4		−·0017	+·0009	− 0·3	+ 4·3	·0000
45	52·8	34·8		13·8		−·0017	+·0009	− 0·3	+ 4·3	·0000
03 00	52·1	34·0	63·0	14·6	62·8	−·0019	+·0009	− 0·6	+ 4·6	−·0001
15	51·9	33·9		15·3		−·0019	+·0010	− 0·5	+ 4·8	·0000
30	52·0	32·9		16·0		−·0020	+·0010	− 0·1	+ 4·9	−·0001
45	51·5	31·8		17·7		−·0022	+·0012	− 0·2	+ 5·4	−·0001

1844.
Cape of Good Hope.

October 1.

OBSERVATIONS OF THE MAGNETOMETERS.

The H. F. and V. F. were observed immediately after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours. $\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\beta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div	Therm. °	Sc. Div. °	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
1 04 00	48·6	32·4	63·3	20·7	63·0	−·0021	+·0016	− 2·1	+ 6·1	+·0003
15	47·0	33·1		20·2		−·0019	+·0015	− 3·2	+ 5·6	+·0003
30	42·8	36·6		21·2		−·0011	+·0017	− 6·2	+ 4·6	+·0007
45	44·1	37·8		16·8		−·0008	+·0011	− 5·2	+ 3·1	+·0004
05 00	46·2	36·3	63·4	14·2	63·1	−·0011	+·0008	− 3·5	+ 3·1	+·0001
15	46·8	33·5		16·0		−·0017	+·0011	− 3·2	+ 4·6	+·0001
30	46·0	32·0		18·3		−·0021	+·0014	− 3·8	+ 5·6	+·0001
45	47·0	31·7		17·2		−·0021	+·0013	− 3·2	+ 5·6	+·0001
06 00	47·7	30·7	63·4	16·8	63·2	−·0023	+·0013	− 2·7	+ 5·9	·0000
15	47·0	30·6		18·1		−·0023	+·0014	− 3·3	+ 6·1	+·0001
30	43·0	32·7		20·4		−·0018	+·0018	− 6·4	+ 5·9	+·0005
45	44·2	41·5		10·8		+·0001	+·0004	− 5·5	+ 0·5	+·0003
07 00	48·7	39·6	63·4	6·4	63·3	−·0003	−·0002	− 2·2	+ 0·2	−·0002
15	48·1	35·5		10·4		−·0012	+·0004	− 2·6	+ 2·6	−·0002
30	46·3	33·3		14·9		−·0017	+·0010	− 4·0	+ 4·4	·0000
45	47·0	32·6		14·7		−·0018	+·0010	− 3·5	+ 4·6	·0000
08 00	44·6	32·3	63·4	18·1	63·4	−·0019	+·0015	− 5·3	+ 5·6	+·0003
15	45·0	34·6		15·6		−·0014	+·0011	− 5·0	+ 4·1	+·0002
30	46·1	35·0		13·1		−·0014	+·0008	− 4·1	+ 3·6	·0000
45	46·7	34·9		12·5		−·0014	+·0007	− 3·7	+ 3·5	·0000
09 00	47·3	35·0	63·3	12·1	63·4	−·0015	+·0007	− 3·2	+ 3·6	−·0001
15	48·2	35·2		11·3		−·0014	+·0006	− 2·6	+ 3·3	−·0001
30	48·6	35·5		11·7		−·0014	+·0006	− 2·4	+ 3·3	−·0001
45	48·6	37·5		10·9		−·0009	+·0005	− 2·4	+ 2·3	·0000
10 00	49·7	38·8	63·0	8·5	62·9	−·0007	+·0002	− 1·7	+ 1·5	−·0001
15	49·1	39·3		8·7		−·0006	+·0002	− 2·1	+ 1·3	−·0001
30	49·2	39·8		8·7		−·0005	+·0002	− 2·0	+ 1·2	·0000
45	48·5	37·7		10·4		−·0010	+·0005	− 2·6	+ 2·5	·0000
11 00	48·5	38·0	62·6	10·2	62·5	−·0010	+·0004	− 2·6	+ 2·3	−·0001
15	49·0	38·1		9·6		−·0010	+·0004	− 2·2	+ 2·3	−·0001
30	49·5	38·8		9·2		−·0010	+·0003	− 1·8	+ 2·1	−·0002
45	49·7	39·2		9·0		−·0009	+·0003	− 1·7	+ 2·0	−·0001
12 00	50·0	39·5	62·6	9·0	62·5	−·0009	+·0003	− 1·4	+ 2·0	−·0001
15	50·0	39·8		9·0		−·0009	+·0003	− 1·4	+ 2·0	−·0001
30	50·0	39·9		9·0		−·0009	+·0003	− 1·4	+ 2·0	−·0001
45	50·3	40·0		9·0		−·0009	+·0002	− 1·1	+ 1·8	−·0002
13 00	50·5	40·3	61·7	9·0	61·8	−·0008	+·0002	− 1·0	+ 1·7	−·0002
14 00	51·2	42·2	61·3	8·3	61·5	−·0005	+·0001	− 0·2	+ 1·0	−·0001

1844.
St. Helena.

October 1.

ST. HELENA, 1844. OCTOBER 1.

MEAN MONTHLY READINGS OF THE MAGNETOMETERS.

Mean Göttingen Time.	Declination.	H. F. at 61°·9.	V. F. at 61°·8.	Mean Göttingen Time.	Declination.	H. F. at 61°·9.	V. F. at 61°·8.
Hours.	Sc. Div.	Sc. Div.	Sc. Div.	Hours.	Sc. Div.	Sc. Div.	Sc. Div.
00	198·3	67·3	49·7	12	196·7	60·1	50·1
01	199·3	67·1	49·8	13	196·5	60·3	49·9
02	199·4	66·1	50·2	14	196·2	60·3	49·8
03	198·2	64·6	50·5	15	196·1	60·8	49·8
04	196·3	63·4	50·8	16	195·9	61·0	49·8
05	195·0	62·9	51·1	17	195·7	61·3	49·7
06	195·2	62·0	51·1	18	195·7	61·3	49·6
07	195·9	61·0	51·0	19	196·4	61·4	49·4
08	196·2	60·1	50·8	20	194·2	62·2	49·2
09	196·5	60·0	50·6	21	193·4	63·2	49·3
10	196·6	59·9	50·3	22	194·4	65·0	49·4
11	196·7	59·9	50·1	23	196·0	66·9	49·5

Coefficients (A), Approximate Absolute Values (B.)

(A) Declin. $a = 0'·712$

H. F. $k = ·00021$, $q = ·00028$

V. F. $k = ·00079$, $q = ·00002$

(B) Approx. $\psi = 23°\,20'$, $X = 5·57$, $Y = 2·24$, $\theta = -21°53'$, $\phi = 6·00$

1844.
St. Helena.

October 1.

OBSERVATIONS OF THE MAGNETOMETERS. The Declination was observed 2m. before, and the V. F. 1m. after the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
1 02 02	197·2	48·4	66·3	55·5	65·7	−·0025	+·0043	− 1·5	+ 8·0	−·0016
03 02	195·6	46·0	67·1	56·5	66·3	−·0024	+·0048	− 1·8	+ 8·5	−·0014
07	195·5	45·8		56·5		−·0024	+·0048	− 1·8	+ 8·5	−·0014
12	195·4	45·6		56·5		−·0024	+·0047	− 1·8	+ 8·3	−·0014
17	195·1	45·0		56·5		−·0025	+·0047	− 1·8	+ 8·5	−·0015
22	194·9	44·6		56·7		−·0026	+·0049	− 1·9	+ 8·8	−·0016
27	194·8	44·1		56·8		−·0027	+·0050	− 1·8	+ 9·0	−·0017
32	194·7	43·4		57·0		−·0028	+·0051	− 1·8	+ 9·3	−·0017
37	194·1	42·9		57·0		−·0028	+·0051	− 2·1	+ 9·3	−·0017
42	194·1	42·1		57·0		−·0030	+·0051	− 2·0	+ 9·5	−·0019
47	194·0	41·8		57·0		−·0030	+·0051	− 2·0	+ 9·5	−·0019
52	193·5	41·5		57·0		−·0030	+·0051	− 2·2	+ 9·5	−·0019
57	193·5	41·1		57·2		−·0031	+·0052	− 2·1	+ 9·8	−·0020
04 02	193·4	41·9	67·8	57·2	66·9	−·0029	+·0052	− 2·0	+ 9·5	−·0018
07	193·0	42·0		57·3		−·0028	+·0053	− 2·2	+ 9·5	−·0017
12	193·0	41·9		57·3		−·0028	+·0052	− 2·2	+ 9·4	−·0017
17	192·9	41·3		57·2		−·0030	+·0051	− 2·2	+ 9·5	−·0019
22	192·4	39·9		57·2		−·0032	+·0051	− 2·5	+ 9·8	−·0021
27	192·1	40·0		57·2		−·0032	+·0051	− 2·6	+ 9·8	−·0021
32	192·7	42·5		57·3		−·0027	+·0051	− 2·1	+ 9·2	−·0016
37	193·3	43·8		57·4		−·0024	+·0052	− 1·5	+ 8·9	−·0014
42	193·3	43·8		57·4		−·0024	+·0052	− 1·5	+ 8·9	−·0014
47	193·1	43·3		57·4		−·0025	+·0052	− 1·5	+ 9·0	−·0015
52	193·0	43·1		57·4		−·0025	+·0051	− 1·5	+ 8·9	−·0015
57	192·7	43·1		57·4		−·0025	+·0051	− 1·7	+ 8·9	−·0015
05 02	192·5	42·5	67·9	57·4	67·1	−·0026	+·0051	− 1·8	+ 9·0	−·0016
07	192·5	41·7		57·4		−·0028	+·0051	− 1·8	+ 9·3	−·0017
12	192·5	40·9		57·4		−·0029	+·0051	− 1·8	+ 9·4	−·0018
17	192·7	40·1		57·4		−·0031	+·0051	− 1·6	+ 9·7	−·0020
22	192·5	39·0		57·4		−·0033	+·0051	− 1·8	+ 9·9	−·0022
27	192·3	38·2		57·5		−·0035	+·0052	− 2·0	+10·2	−·0023
32	192·3	38·2		57·5		−·0034	+·0052	− 2·0	+10·1	−·0022
37	192·2	38·0		57·5		−·0035	+·0052	− 2·0	+10·2	−·0023
42	192·1	38·2		57·4		−·0034	+·0051	− 2·1	+10·0	−·0022
47	192·0	38·2		57·4		−·0034	+·0051	− 2·2	+10·0	−·0022
52	192·0	38·2		57·4		−·0034	+·0051	− 2·2	+10·0	−·0022
57	192·0	38·1		57·3		−·0034	+·0051	− 2·2	+10·0	−·0022
06 02	192·1	38·0	67·6	57·3	67·2	−·0034	+·0051	− 2·2	+10·0	−·0022
07	192·2	37·8		57·3		−·0035	+·0051	− 2·2	+10·1	−·0023
12	192·3	37·4		57·3		−·0036	+·0051	− 2·1	+10·2	−·0024
17	192·4	37·2		57·3		−·0036	+·0051	− 2·1	+10·2	−·0024
22	192·8	37·1		57·0		−·0036	+·0048	− 1·8	+ 9·9	−·0025
27	192·7	37·1		57·0		−·0036	+·0048	− 2·0	+ 9·9	−·0025
32	192·8	38·9		57·0		−·0032	+·0048	− 1·9	+ 9·4	−·0021
37	192·9	41·9		57·0		−·0026	+·0048	− 1·9	+ 8·7	−·0016
42	193·6	45·0		57·0		−·0019	+·0048	− 1·5	+ 7·9	−·0010
47	193·9	47·1		57·0		−·0015	+·0048	− 1·3	+ 7·4	−·0007
52	193·9	48·1		57·0		−·0013	+·0048	− 1·3	+ 7·2	−·0005
57	194·0	47·8		57·1		−·0013	+·0049	− 1·3	+ 7·3	−·0005
07 02	194·0	46·5	67·1	57·1	66·7	−·0016	+·0049	− 1·3	+ 7·6	−·0007
07	194·1	45·0		57·4		−·0019	+·0051	− 1·3	+ 8·2	−·0009
12	194·1	43·2		57·4		−·0023	+·0051	− 1·3	+ 8·7	−·0013
17	194·0	42·2		57·4		−·0025	+·0051	− 1·4	+ 8·9	−·0015
22	193·9	40·8		57·4		−·0028	+·0052	− 1·5	+ 9·4	−·0017
27	193·9	39·9		57·4		−·0029	+·0052	− 1·5	+ 9·5	−·0018
32	193·8	39·7		57·4		−·0029	+·0052	− 1·6	+ 9·5	−·0018
37	193·9	39·7		57·4		−·0030	+·0052	− 1·5	+ 9·7	−·0019
42	193·9	39·1		57·4		−·0031	+·0052	− 1·5	+ 9·8	−·0020
47	193·9	38·8		57·3		−·0031	+·0051	− 1·5	+ 9·7	−·0020
52	193·9	38·0		57·3		−·0033	+·0052	− 1·6	+10·0	−·0022
57	193·5	37·4		57·3		−·0034	+·0052	− 1·9	+10·1	−·0022
08 02	193·5	37·8	66·8	57·3	66·6	−·0033	+·0052	− 1·9	+10·0	−·0022
07	193·4	38·1		57·0		−·0033	+·0050	− 2·0	+ 9·8	−·0022

1844.
St. Helena.

October 1—2.

OBSERVATIONS OF THE MAGNETOMETERS. The Declination was observed 2m. before, and the V. F. 1m. after the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta \psi$	$\Delta \theta$	$\frac{\Delta \phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
1 08 12	193·5	38·9		57·0		−·0031	+·0050	− 2·0	+ 9·5	−·0020
17	193·7	39·8		57·0		−·0029	+·0050	− 1·8	+ 9·3	−·0018
22	193·8	40·0		57·0		−·0029	+·0051	− 1·8	+ 9·4	−·0018
27	194·0	40·3		57·0		−·0029	+·0051	− 1·6	+ 9·4	−·0018
32	194·0	40·9		57·0		−·0028	+·0051	− 1·7	+ 9·3	−·0017
37	194·2	40·9		57·0		−·0028	+·0051	− 1·5	+ 9·3	−·0017
42	194·1	40·9		57·0		−·0028	+·0051	− 1·6	+ 9·3	−·0017
47	194·1	40·9		57·0		−·0028	+·0051	− 1·6	+ 9·3	−·0017
52	194·0	41·0		56·7		−·0028	+·0049	− 1·8	+ 9·0	−·0018
57	194·1	41·0		56·7		−·0028	+·0049	− 1·7	+ 9·0	−·0018
09 02	194·1	41·0	66·1	56·7	66·2	−·0028	+·0049	− 1·7	+ 9·0	−·0018
07	194·2	41·2		56·8		−·0028	+·0050	− 1·6	+ 9·2	−·0017
12	194·3	41·5		56·8		−·0027	+·0051	− 1·5	+ 9·2	−·0016
17	194·5	41·7		56·8		−·0027	+·0051	− 1·4	+ 9·2	−·0016
22	194·8	41·7		56·8		−·0027	+·0051	− 1·2	+ 9·2	−·0016
27	194·9	41·6		56·8		−·0027	+·0051	− 1·1	+ 9·2	−·0016
32	195·2	41·7		56·7		−·0027	+·0051	− 0·9	+ 9·2	−·0016
37	195·3	41·7		56·7		−·0027	+·0051	− 0·9	+ 9·2	−·0016
42	195·4	42·2		56·7		−·0026	+·0051	− 0·8	+ 9·0	−·0016
47	195·4	43·2		56·7		−·0024	+·0051	− 0·8	+ 8·8	−·0014
52	195·6	44·7		56·7		−·0021	+·0051	− 0·7	+ 8·5	−·0011
57	195·8	46·3		56·7		−·0017	+·0051	− 0·6	+ 8·0	−·0008
10 02	195·8	47·4	65·9	56·2	65·9	−·0015	+·0047	− 0·6	+ 7·3	−·0007
07	195·7	47·9		56·4		−·0014	+·0049	− 0·6	+ 7·4	−·0006
12	195·7	48·2		56·4		−·0014	+·0049	− 0·6	+ 7·4	−·0006
17	195·6	48·3		56·4		−·0013	+·0049	− 0·7	+ 7·3	−·0005
22	195·8	48·7		56·4		−·0013	+·0050	− 0·6	+ 7·4	−·0005
27	196·1	49·1		56·4		−·0012	+·0050	− 0·4	+ 7·3	−·0004
32	196·1	48·0		56·2		−·0014	+·0048	− 0·4	+ 7·3	−·0006
37	105·8	46·8		56·0		−·0017	+·0047	− 0·6	+ 7·5	−·0008
42	195·7	46·1		56·0		−·0019	+·0047	− 0·7	+ 7·8	−·0010
47	195·8	46·2		56·0		−·0018	+·0047	− 0·6	+ 7·6	−·0009
52	195·8	46·2		56·0		−·0018	+·0047	− 0·6	+ 7·6	−·0009
57	195·7	46·4		56·0		−·0018	+·0047	− 0·7	+ 7·6	−·0009
11 02	195·7	46·8	65·6	56·0	65·5	−·0017	+·0047	− 0·7	+ 7·5	−·0008
07	195·6	47·0		56·0		−·0017	+·0047	− 0·8	+ 7·5	−·0008
12	195·5	47·1		56·0		−·0017	+·0047	− 0·8	+ 7·5	−·0008
17	195·4	47·6		56·0		−·0016	+·0047	− 0·9	+ 7·4	−·0008
22	195·4	47·9		56·0		−·0015	+·0047	− 0·9	+ 7·3	−·0007
27	195·3	48·2		56·0		−·0015	+·0047	− 1·0	+ 7·3	−·0007
32	195·4	48·6		56·0		−·0014	+·0047	− 0·9	+ 7·2	−·0006
37	195·4	48·9		56·0		−·0013	+·0047	− 0·9	+ 7·1	−·0005
42	195·5	49·1		56·0		−·0013	+·0047	− 0·8	+ 7·1	−·0005
47	195·5	49·3		55·9		−·0013	+·0047	− 0·8	+ 7·1	−·0005
52	195·6	49·4		55·7		−·0013	+·0045	− 0·8	+ 6·8	−·0005
57	195·6	49·7		55·7		−·0012	+·0045	− 0·8	+ 6·7	−·0004
12 02	195·6	49·9	65·3	55·6	65·4	−·0012	+·0044	− 0·8	+ 6·6	−·0004
07	195·7	50·0		55·6		−·0012	+·0044	− 0·7	+ 6·6	−·0004
12	195·7	50·1		55·6		−·0012	+·0044	− 0·7	+ 6·6	−·0004
17	195·6	50·2		55·6		−·0011	+·0044	− 0·8	+ 6·5	−·0004
22	195·6	50·5		55·6		−·0011	+·0045	− 0·7	+ 6·6	−·0003
27	195·6	50·6		55·6		−·0011	+·0045	− 0·7	+ 6·6	−·0003
32	195·6	50·8		55·6		−·0011	+·0045	− 0·7	+ 6·6	−·0003
37	195·6	51·0		55·6		−·0010	+·0045	− 0·7	+ 6·5	−·0003
42	195·7	51·0		55·6		−·0010	+·0045	− 0·6	+ 6·5	−·0003
47	195·6	51·1		55·6		−·0010	+·0045	− 0·7	+ 6·5	−·0003
52	195·7	51·2		55·6		−·0010	+·0046	− 0·6	+ 6·6	−·0002
57	195·8	51·2		55·6		−·0010	+·0046	− 0·5	+ 6·6	−·0002
13 02	195·7	51·4	65·1	55·6	65·2	−·0010	+·0046	− 0·6	+ 6·6	−·0002
2 06 02	196·2	56·1	66·7	55·9	65·8	+·0001	+·0039	+ 0·7	+ 4·5	−·0004
07 02	195·1	47·0	66·0	55·9	65·6	−·0018	+·0040	− 0·6	+ 6·8	−·0010
12	195·5	47·7		55·9		−·0016	+·0040	− 0·4	+ 6·6	−·0008

1844.
St. Helena.

October 2.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
						$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
2 07 17	195·3	47·9		55·9		−·0016	+·0040	− 0·5	+ 6·6	−·0008
22	195·3	47·5		55·9		−·0016	+·0040	− 0·5	+ 6·6	−·0008
27	195·1	46·6		55·9		−·0018	+·0040	− 0·6	+ 6·8	−·0010
32	195·1	47·2		55·9		−·0017	+·0040	− 0·7	+ 6·7	−·0009
37	195·4	49·5		56·2		−·0012	+·0043	− 0·5	+ 6·5	−·0005
42	195·9	49·6		56·2		−·0011	+·0043	− 0·1	+ 6·4	−·0004
47	195·3	49·4		56·2		−·0012	+·0043	− 0·6	+ 6·5	−·0005
52	195·3	49·4		56·2		−·0011	+·0044	− 0·6	+ 6·5	−·0004
57	195·1	49·8		56·2		−·0011	+·0044	− 0·8	+ 6·5	−·0004
08 02	195·2	49·9	66·0	56·2	65·7	−·0010	+·0044	− 0·7	+ 6·4	−·0003
07	195·2	50·1		56·2		−·0010	+·0044	− 0·7	+ 6·4	−·0003
12	195·4	50·4		56·2		−·0009	+·0044	− 0·6	+ 6·2	−·0002
17	195·5	50·9		56·2		−·0008	+·0044	− 0·6	+ 6·1	−·0001
22	195·9	51·0		56·2		−·0008	+·0044	− 0·3	+ 6·1	−·0001
27	195·9	51·1		56·2		−·0008	+·0044	− 0·3	+ 6·1	−·0001
32	195·9	52·2		56·1		−·0006	+·0044	− 0·4	+ 5·9	−·0001
37	196·0	52·7		56·1		−·0004	+·0044	− 0·3	+ 5·7	−·0003
42	196·0	53·0		56·1		−·0004	+·0044	− 0·3	+ 5·7	−·0003
47	196·1	54·1		56·1		−·0002	+·0044	− 0·2	+ 5·4	−·0004
52	196·1	54·0		56·1		−·0002	+·0044	− 0·3	+ 5·4	−·0004
57	196·0	52·9		59·1		−·0004	+·0044	− 0·4	+ 5·7	−·0003
09 02	196·0	52·8	65·7	56·1	65·7	−·0004	+·0044	− 0·4	+ 5·7	+·0003
07	196·0	52·7		56·1		−·0005	+·0044	− 0·4	+ 5·8	+·0002
12	196·0	52·8		56·1		−·0005	+·0045	− 0·4	+ 5·9	+·0002
17	196·0	53·4		56·1		−·0004	+·0045	− 0·4	+ 5·8	+·0003
22	196·0	53·2		56·1		−·0004	+·0045	− 0·4	+ 5·8	+·0003
27	196·0	53·3		56·1		−·0004	+·0045	− 0·4	+ 5·8	+·0003
32	196·0	53·4		56·1		−·0004	+·0046	− 0·4	+ 5·9	+·0003
10 02	195·7	54·4	65·3	55·9	65·3	−·0002	+·0045	− 0·6	+ 5·5	+·0004
11 02	196·9	55·1	64·9	55·4	64·9	−·0002	+·0043	+ 0·1	+ 5·3	+·0004
12 02	196·4	54·5	64·6	54·9	64·6	−·0004	+·0039	− 0·2	+ 5·0	+·0002
13 02	196·5	57·1	64·1	54·6	64·2	·0000	+·0038	0·0	+ 4·5	+·0005

1844.
Van Diemen Island.

October 3 and 20.

For Mean Monthly Readings, *see* page 394.

VAN DIEMEN ISLAND, 1844. OCTOBER 3, 20—21.

3 00 02	75·9	106·8	50·8	107·0	50·2	−·0006	−·0005	+ 1·3	+ 0·1	−·0005
01 02	73·7	105·2	50·7	107·7	50·2	−·0010	−·0003	+ 0·4	+ 0·8	−·0004
02 02	64·3	104·9	50·7	103·0	50·0	−·0010	−·0005	− 6·1	+ 0·5	−·0006
07	64·0	104·9		106·9		−·0010	−·0004	− 6·3	+ 0·7	−·0005
12	66·0	104·7		106·3		−·0011	−·0004	− 5·0	+ 0·8	−·0005
17	65·4	104·0		103·4		−·0013	−·0005	− 5·4	+ 0·9	−·0006
22	66·0	103·6		107·0		−·0014	−·0004	− 5·1	+ 1·1	−·0005
27	67·4	103·2		110·7		−·0014	−·0003	− 4·2	+ 1·2	−·0004
32	68·8	102·5		115·4		−·0016	−·0001	− 3·2	+ 1·6	−·0003
37	72·4	102·2		115·7		−·0017	−·0001	− 0·6	+ 1·7	−·0003
42	74·9	102·4		117·5		−·0017	·0000	+ 1·1	+ 1·8	−·0002
47	75·5	103·0		116·6		−·0015	·0000	+ 1·4	+ 1·6	−·0002
52	75·6	103·4		114·6		−·0015	−·0001	+ 1·4	+ 1·5	−·0002
57	75·8	104·3		113·4		−·0013	−·0001	+ 1·5	+ 1·3	−·0002
03 02	75·7	104·4	50·6	113·2	50·0	−·0012	−·0002	+ 1·4	+ 1·1	−·0003
04 02	72·0	105·8	50·5	105·2	49·8	−·0011	−·0004	− 1·5	+ 0·8	−·0005
05 02	75·3	106·7	50·2	105·7	49·6	−·0008	−·0004	+ 0·8	+ 0·4	−·0004
20 03 02	73·8	104·5	59·5	82·1	58·5	+·0008	+·0005	+ 0·1	− 0·3	+·0005
04 02	80·6	106·2	59·3	84·0	58·3	+·0011	+·0006	+ 4·6	− 0·5	+·0007
05 02	76·7	106·6	59·0	83·3	58·0	+·0012	+·0005	+ 1·8	− 0·8	+·0006
06 02	75·0	107·2	58·8	82·4	57·8	+·0012	+·0005	+ 0·4	− 0·8	+ 0006
07 02	73·0	104·2	58·4	80·9	57·4	+·0004	+·0004	− 1·3	0·0	+·0004
08 02	72·2	104·5	58·3	79·2	57·0	+·0004	+·0003	− 1·8	− 0·1	+·0003

1844.
Van Diemen Island.

October 20—21.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
						$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta \psi$	$\Delta \theta$	$\frac{\Delta \phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
20 09 02	72·2	103·1	58·2	83·7	56·7	+·0001	+·0004	− 1·0	+ 0·3	+·0004
10 02	72;9	107·9	57·7	75·1	56·4	+·0014	+·0001	+ 1·1	− 1·4	+·0002
07	72·8	106·1		73·6		+·0010	·0000	+ 1·2	− 1·1	+·0001
12	69·9	105·5		75·8		+·0009	+·0001	− 0·8	− 0·9	+·0002
17	69·7	105·2		77·7		+·0008	+·0001	− 0·8	− 0·8	+·0002
22	68·6	105·0		77·1		+·0008	+·0001	− 1·5	− 0·8	+·0002
27	69·5	105·2		79·3		+·0009	+·0002	− 0·7	− 0·8	+·0003
32	69·1	—		—		—	—	− 0·9	—	—
11 02	67·6	104·2	57·7	72·5	56·2	+·0008	−·0001	− 1·3	− 1·0	·0000
12 02	70·3	102·6	57·5	81·2	56·2	+·0008	+·0001	+ 0·8	− 0·8	+·0002
13 02	71·9	101·0	57·5	83·5	56·2	+·0006	+·0001	+ 0·4	− 0·5	+·0002
14 02	77·1	98·2	57·5	94·9	56·2	+·0002	+·0005	+ 1·4	+ 0·3	+·0005
15 02	84·9	92·6	57·4	113·8	56·2	−·0013	+·0011	+ 4·0	+ 2·6	+·0008
16 02	91·0	97·4	57·2	115·8	56·0	−·0009	+·0011	+ 5·9	+ 2·2	+·0009
17 02	94·0	93·0	57·2	117·4	56·0	−·0022	+·0012	+ 7·3	+ 3·7	+·0008
18 02	93·6	103·9	57·2	121·7	55·8	−·0001	+·0013	+ 7·6	+ 1·5	+·0012
19 02	84·1	104·2	57·2	122·6	56·0	−·0002	+·0014	+ 2·5	+ 1·7	+·0012
20 02	85·8	98·2	57·4	123·3	55·8	−·0014	+·0013	+ 5·1	+ 2·9	+·0010
07	84·5	97·5		122·6		−·0016	+·0013	+ 4·2	+ 3·1	+·0010
12	83·6	97·4		121·3		−·0016	+·0012	+ 3·7	+ 3·0	+·0009
17	82·0	97·3		121·3		−·0016	+·0012	+ 2·6	+ 3·0	+·0009
22	81·5	98·0		120·7		−·0014	+·0012	+ 2·4	+ 2·8	+·0009
27	82·0	97·9		120·0		−·0014	+·0012	+ 2·8	+ 2·8	+·0009
32	82·0	—		—		—	—	+ 2·9	—	—
21 02	80·0	96·8	57·4	117·6	55·8	−·0016	+·0011	+ 2·1	+ 2·9	+·0008
22 02	77·9	86·7	57·3	98·8	55·8	−·0038	+·0005	+ 1·3	+ 4·6	·0000
07	67·4	86·5		101·0		−·0039	+·0005	− 6·1	+ 4·7	·0000
12	60·5	90·0		103·0		−·0031	+·0006	−10·9	+ 4·0	+·0002
17	60·8	91·0		101·6		−·0029	+·0006	−10·5	+ 3·8	+·0002
22	60·0	91·4		99·0		−·0028	+·0005	−11·1	+ 3·6	+·0001
27	59·3	91·5		98·0		−·0028	+·0004	−11·5	+ 3·5	+·0001
32	59·8	92·3		98·0		−·0026	+·0005	−11·1	+ 3·3	+·0002
37	62·4	91·2		98·9		−·0028	+·0005	− 9·1	+ 3·6	+·0001
42	64·0	90·0		100·3		−·0031	+·0005	− 7·8	+ 3·9	+·0001
47	64·2	88·1		101·1		−·0036	+·0006	− 7·6	+ 4·5	+·0001
52	62·1	88·2		101·5		−·0035	+·0006	− 9·0	+ 4·4	+·0001
57	60·8	90·8		102·4		−·0030	+·0006	− 9·8	+ 3·9	+·0002
23 02	64·7	91·8	57·4	104·1	55·8	−·0027	+·0007	− 7·0	+ 3·7	+·0003
07	68·0	90·5		103·7		−·0030	+·0007	− 4·7	+ 4·0	+·0003
12	67·5	92·2		103·2		−·0026	+·0007	− 4·9	+ 3·6	+·0003
17	68·1	93·0		102·8		−·0024	+·0006	− 4·5	+ 3·2	+·0003
22	68·9	93·2		101·0		−·0024	+·0006	− 4·0	+ 3·2	+·0003
27	69·1	92·2		100·7		−·0026	+·0005	− 3·7	+ 3·3	+·0002
32	68·6	92·6		102·2		−·0025	+·0006	− 4·1	+ 3·3	+·0003
37	68·2	94·0		102·2		−·0021	+·0006	− 4·4	+ 2·9	+·0003
42	68·2	93·8		98·7		−·0022	+·0004	− 4·3	+ 2·8	+·0001
47	68·3	95·0		98·4		−·0019	+·0004	− 4·2	+ 2·5	+·0001
52	68·8	95·7		96·5		−·0017	+·0004	− 3·9	+ 2·3	+·0002
57	68·2	94·5		95·1		−·0020	+·0003	− 4·2	+ 2·5	·0000
21 00 02	67·0	93·4	57·3	94·0	55·9	−·0022	+·0003	− 5·1	+ 2·7	·0000
07	65·0	92·2		93·3		−·0025	+·0002	− 6·4	+ 2·9	−·0001
12	63·8	90·8		94·3		−·0028	+·0003	− 7·2	+ 3·3	·0000
17	62·9	89·0		96·1		−·0032	+·0004	− 7·8	+ 3·9	·0000
22	61·4	88·1		97·3		−·0034	+·0004	− 8·8	+ 4·1	·0000
27	59·9	88·4		98·2		−·0034	+·0005	− 9·8	+ 4·2	+·0001
32	60·9	90·1		100·5		−·0030	+·0006	− 9·0	+ 3·9	+·0002
37	64·1	90·4		99·7		−·0029	+·0005	− 6·7	+ 3·7	+·0001
42	67·1	89·5		100·2		−·0031	+·0006	− 4·5	+ 4·0	+·0002
47	67·1	90·2		98·7		−·0029	+·0005	− 4·5	+ 3·7	+·0001
52	67·0	92·1		97·7		−·0025	+·0005	− 4·5	+ 3·2	+·0002
57	67·3	93·5		96·2		−·0022	+·0005	− 4·2	+ 2·9	+·0002
01 02	68·2	93·6	57·3	93·0	55·9	−·0021	+·0003	− 3·4	+ 2·6	·0000
07	66·2	95·1		88·2		−·0018	+·0002	− 4·9	+ 2·2	·0000

1844.
Van Diemen Island.

October 21.

OBSERVATIONS OF THE MAGNETOMETERS. The Declination was observed 2m. before, and the V. F. 1m. after the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
21 01 12	65·5	95·5		85·5		−·0017	+·0001	− 5·4	+ 1·9	−·0001
17	63·3	95·7		82·1		−·0017	−·0001	− 6·9	+ 1·7	−·0003
22	62·4	94·0		82·3		−·0021	−·0001	− 7·5	+ 2·2	−·0003
27	62·4	92·5		85·2		−·0024	+·0001	− 7·5	+ 2·7	−·0002
32	63·3	91·9		88·2		−·0025	+·0002	− 6·8	+ 2·9	−·0001
37	63·1	89·9		89·4		−·0030	+·0002	− 7·0	+ 3·5	−·0001
42	63·3	88·9		92·4		−·0032	+·0003	− 6·8	+ 3·8	−·0001
47	63·2	88·7		94·5		−·0032	+·0004	− 6·9	+ 3·9	·0000
52	63·4	88·9		95·1		−·0032	+·0004	− 6·7	+ 3·9	·0000
57	63·8	89·6		95·6		−·0030	+·0004	− 6·4	+ 3·7	·0000
02 02	64·4	90·4	57·3	96·6	55·9	−·0029	+·0005	− 6·0	+ 3·7	+·0001
07	70·0	91·6		98·1		−·0026	+·0005	− 2·0	+ 3·3	+·0002
12	77·0	97·0		97·9		−·0014	+·0005	+ 2·8	+ 2·0	+·0003
17	81·4	98·0		90·4		−·0012	+·0002	+ 6·0	+ 1·5	+·0001
22	77·6	102·4		83·6		−·0001	·0000	+ 3·2	+ 0·1	·0000
27	79·3	107·2		77·8		+·0010	−·0002	+ 4·4	− 1·3	−·0001
32	82·1	100·6		69·4		−·0006	−·0005	+ 6·3	+ 0·1	−·0005
37	73·8	99·3		65·7		−·0009	−·0007	+ 0·4	+ 0·2	−·0007
42	73·0	104·1		65·2		+·0002	−·0007	− 0·3	− 1·0	−·0006
47	71·9	101·6		64·2		−·0004	−·0007	− 1·1	− 0·3	−·0001
52	71·3	104·4		65·9		+·0002	−·0007	− 1·6	− 1·0	−·0006
57	75·1	102·6		70·1		−·0002	−·0005	+ 1·1	− 0·3	−·0005
03 02	78·2	98·6	57·0	72·5	55·6	−·0011	−·0004	+ 3·2	+ 0·8	−·0005
07	75·1	96·2		74·8		−·0017	−·0004	+ 1·0	+ 1·4	−·0005
12	74·1	96·6		77·2		−·0016	−·0003	+ 0·2	+ 1·4	−·0004
17	73·3	97·8		79·3		−·0013	−·0002	− 0·4	+ 1·2	−·0003
04 02	71·3	95·0	57·0	81·1	55·5	−·0021	−·0001	− 2·0	+ 2·2	−·0003
05 02	74·8	94·3	56·5	92·6	55·2	−·0022	+·0003	+ 0·5	+ 2·7	·0000

1844.
St. Helena.

October 20.

For Mean Monthly Readings, *see* page 400.

ST. HELENA, 1844. OCTOBER 20—21.										
20 12 02	196·9	60·9	60·9	48·9	61·0	−·0001	−·0010	+ 0·1	− 1·0	−·0002
13 02	195·9	61·4	60·8	48·9	60·9	−·0001	−·0008	− 0·4	− 0·8	−·0002
14 02	194·2	58·5	60·7	48·8	60·8	−·0007	−·0008	− 1·4	− 0·1	−·0008
15 02	193·1	64·8	60·6	48·5	60·7	+·0005	−·0010	− 2·1	− 1·8	+·0003
16 02	190·4	60·4	60·5	48·3	60·6	−·0005	−·0012	− 4·0	− 0·8	−·0006
07	190·2	—	—	—	—	—	—	− 4·1	—	—
12	190·0	60·5		48·3		−·0005	−·0012	− 4·2	− 0·8	−·0006
17	190·2	61·5		48·3		−·0003	−·0012	− 4·1	− 1·0	−·0004
22	189·2	62·7		48·1		·0000	−·0013	− 4·7	− 1·5	−·0002
27	189·0	63·7		48·1		+·0002	−·0013	− 4·9	− 1·8	·0000
32	189·0	64·6		48·1		+·0003	−·0013	− 4·9	− 1·9	+·0001
37	188·9	65·0		48·1		+·0004	−·0013	− 4·9	− 2·0	+·0002
42	189·0	64·8		47·9		+·0004	−·0014	− 4·9	− 2·1	+·0002
47	188·8	64·8		47·9		+·0004	−·0014	− 5·0	− 2·1	+·0002
52	188·5	64·0		47·9		+·0002	−·0014	− 5·1	− 1·9	·0000
57	188·6	62·6		47·9		−·0001	−·0014	− 5·1	− 1·5	−·0003
17 02	188·8	61·4	60·6	47·9	60·6	−·0003	−·0014	− 4·9	− 1·3	−·0004
07	188·7	60·6		47·9		−·0005	−·0014	− 5·0	− 1·0	−·0006
12	188·8	60·3		47·9		−·0006	−·0014	− 4·9	− 0·9	−·0007
17	188·9	59·7		47·9		−·0007	−·0014	− 4·9	− 0·8	−·0008
22	188·8	59·4		47·9		−·0008	−·0014	− 4·9	− 0·7	−·0009
27	188·7	58·9		47·9		−·0009	−·0014	− 5·0	− 0·6	−·0010
32	188·5	58·7		47·9		−·0009	−·0014	− 5·1	− 0·6	−·0010
37	188·1	58·4		47·9		−·0010	−·0013	− 5·4	− 0·3	−·0010
42	187·9	57·9		47·9		−·0011	−·0013	− 5·6	− 0·2	−·0011
47	187·6	57·7		47·9		−·0011	−·0013	− 5·8	− 0·2	−·0011
52	187·5	57·3		47·9		−·0012	−·0013	− 5·8	− 0·1	−·0012
57	187·2	57·7		47·9		−·0011	−·0013	− 6·1	− 0·2	−·0011
18 02	186·8	58·1	60·5	47·9	61·3	−·0011	−·0013	− 6·3	− 0·2	−·0011
07	187·0	57·8		47·6		−·0011	−·0016	− 6·3	− 0·6	−·0012

1844.
St. Helena.

October 20.

OBSERVATIONS OF THE MAGNETOMETERS. The Declination was observed 2m. before, and the V. F. 1m. after the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
20 18 12	187·3	57·7		47·9		−·0011	−·0013	− 6·1	− 0·2	−·0011
17	187·3	57·3		47·9		−·0012	−·0013	− 6·1	− 0·1	−·0012
22	187·8	57·3		47·9		−·0012	−·0013	− 5·8	− 0·1	−·0012
27	188·4	57·6		47·9		−·0012	−·0013	− 5·4	− 0·1	−·0012
32	189·0	58·0		47·9		−·0011	−·0013	− 5·0	− 0·2	−·0011
37	189·5	58·6		47·9		−·0010	−·0013	− 4·7	− 0·3	−·0010
42	190·0	58·9		48·0		−·0009	−·0012	− 4·4	− 0·3	−·0009
47	190·4	58·9		48·1		−·0009	−·0011	− 4·2	− 0·2	−·0009
52	191·2	59·0		48·1		−·0009	−·0010	− 3·7	− 0·1	−·0009
57	191·9	59·1		48·1		−·0008	−·0010	− 3·1	− 0·2	−·0008
19 02	192·5	58·9	60·6	48·1	61·0	−·0009	−·0010	− 2·7	− 0·1	−·0009
07	192·6	—		—		—	—	− 2·5	—	—
12	192·8	59·2		48·3		−·0008	−·0009	− 2·2	− 0·1	−·0008
17	192·6	59·7		48·3		−·0007	−·0009	− 2·3	− 0·2	−·0007
22	193·1	59·7		48·7		−·0008	−·0005	− 1·8	+ 0·3	−·0008
27	193·8	59·3		48·7		−·0008	−·0005	− 1·2	+ 0·3	−·0008
32	193·8	59·2		48·7		−·0009	−·0005	− 1·1	+ 0·5	−·0008
37	193·7	59·3		48·7		−·0009	−·0005	− 1·0	+ 0·5	−·0008
42	193·5	59·1		48·7		−·0009	−·0005	− 1·0	+ 0·5	−·0008
47	194·2	58·5		48·7		−·0011	−·0005	− 0·4	+ 0·7	−·0010
52	194·2	58·0		48·7		−·0012	−·0004	− 0·3	+ 0·9	−·0011
57	194·0	58·9		48·6		−·0010	−·0005	− 0·3	+ 0·6	−·0009
20 02	193·4	58·5	60·8	48·6	60·9	−·0011	−·0005	− 0·6	+ 0·7	−·0010
07	193·8	58·1		48·6		−·0012	−·0005	− 0·2	+ 0·8	−·0011
12	194·0	58·3		48·6		−·0012	−·0005	− 0·1	+ 0·8	−·0011
17	194·0	58·5		48·6		−·0011	−·0005	0·0	+ 0·7	−·0010
22	194·0	58·2		48·3		−·0012	−·0007	+ 0·1	+ 0·6	−·0011
27	193·9	58·2		48·3		−·0012	−·0007	0·0	+ 0·6	−·0011
32	194·0	58·2		48·3		−·0012	−·0007	+ 0·1	+ 0·6	−·0011
37	194·0	57·7		48·3		−·0014	−·0008	+ 0·2	+ 0·7	−·0013
42	193·9	57·6		48·3		−·0014	−·0008	+ 0·1	+ 0·7	−·0013
47	194·0	57·2		48·3		−·0015	−·0008	+ 0·3	+ 0·8	−·0014
52	194·1	57·0		48·3		−·0016	−·0008	+ 0·4	+ 0·9	−·0015
57	194·2	57·1		48·3		−·0016	−·0008	+ 0·5	+ 0·9	−·0015
21 02	194·4	57·0	60·8	48·3	60·7	−·0016	−·0008	+ 0·7	+ 0·9	−·0015
07	194·8	57·1		48·3		−·0016	−·0008	+ 0·9	+ 0·9	−·0015
12	194·5	57·4		48·3		−·0016	−·0008	+ 0·6	+ 0·9	−·0015
17	194·3	57·2		48·3		−·0017	−·0008	+ 0·5	+ 1·0	−·0016
22	194·2	57·1		48·3		−·0017	−·0008	+ 0·4	+ 1·0	−·0016
27	194·4	56·6		48·3		−·0019	−·0008	+ 0·4	+ 1·3	−·0018
32	194·4	56·4		48·3		−·0019	−·0008	+ 0·4	+ 1·3	−·0018
37	194·0	56·0		48·3		−·0020	−·0009	0·0	+ 1·3	−·0019
42	194·0	54·7		48·3		−·0023	−·0009	− 0·1	+ 1·7	−·0021
47	193·9	53·9		48·3		−·0025	−·0009	− 0·1	+ 1·9	−·0023
52	194·1	53·0		48·3		−·0027	−·0009	− 0·1	+ 2·1	−·0025
57	194·1	52·8		48·2		−·0028	−·0010	− 0·1	+ 2·1	−·0026
22 02	194·9	53·1	60·9	48·2	60·9	−·0028	−·0010	+ 0·4	+ 2·1	−·0026
07	195·3	54·2		48·3		−·0026	−·0009	+ 0·6	+ 2·0	−·0024
12	195·5	54·0		48·3		−·0026	−·0009	+ 0·6	+ 2·0	−·0024
17	195·2	54·0		48·3		−·0027	−·0009	+ 0·3	+ 2·1	−·0025
22	195·0	54·4		48·3		−·0026	−·0009	+ 0·1	+ 2·0	−·0024
27	195·1	54·4		48·3		−·0026	−·0009	0·0	+ 2·0	−·0024
32	195·1	54·1		48·3		−·0027	−·0009	− 0·1	+ 2·1	−·0025
37	195·4	54·2		48·3		−·0027	−·0010	+ 0·1	+ 2·0	−·0025
42	195·6	54·5		48·3		−·0027	−·0010	+ 0·1	+ 2·0	−·0025
47	195·6	54·9		48·3		−·0026	−·0010	0·0	+ 1·9	−·0024
52	195·5	55·2		48·3		−·0026	−·0010	− 0·1	+ 1·9	−·0024
57	195·4	55·3		48·3		−·0025	−·0010	− 0·4	+ 1·8	−·0023
23 02	195·3	55·8	61·4	48·3	61·3	−·0025	−·0010	− 0·5	+ 1·8	−·0023
07	195·0	55·1		48·2		−·0026	−·0010	− 0·8	+ 1·9	−·0024
12	195·0	55·0		48·4		−·0027	−·0009	− 1·0	+ 2·1	−·0025
17	195·0	54·7		48·4		−·0027	−·0009	− 1·1	+ 2·1	−·0025
22	195·1	54·7		48·4		−·0027	−·0010	− 1·2	+ 2·0	−·0025

1844.
St. Helena.
October 20—21.

OBSERVATIONS OF THE MAGNETOMETERS. The Declination was observed 2m. before, and the V. F. 1m. after the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta \psi$	$\Delta \theta$	$\frac{\Delta \phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
20 23 27	195·2	54·8		48·4		−·0027	−·0010	− 1·3	+ 2·0	−·0025
32	195·2	54·8		48·4		−·0027	−·0010	− 1·3	+ 2·0	−·0025
37	195·6	55·1		48·6		−·0026	−·0008	− 1·2	+ 2·1	−·0024
42	195·9	54·7		48·6		−·0027	−·0008	− 1·1	+ 2·2	−·0025
47	195·5	54·5		48·6		−·0027	−·0008	− 1·5	+ 2·2	−·0025
52	195·4	54·5		48·6		−·0027	−·0009	− 1·8	+ 2·1	−·0025
57	195·4	53·4		48·6		−·0029	−·0009	− 1·9	+ 2·4	−·0026
21 00 02	195·5	52·5	61·8	48·6	61·6	−·0031	−·0009	− 2·0	+ 2·6	−·0028
07	195·4	51·2		48·6		−·0034	−·0009	− 2·1	+ 2·9	−·0031
12	195·9	50·6		48·6		−·0035	−·0009	− 1·8	+ 3·1	−·0031
17	195·7	50·6		48·6		−·0035	−·0009	− 2·0	+ 3·1	−·0031
22	195·3	50·6		48·6		−·0035	−·0009	− 2·3	+ 3·1	−·0031
27	195·0	50·4		48·6		−·0035	−·0009	− 2·6	+ 3·1	−·0031
32	194·8	50·2		48·6		−·0036	−·0009	− 2·8	+ 3·2	−·0032
37	194·7	50·5		48·6		−·0035	−·0010	− 2·9	+ 2·9	−·0032
42	194·9	51·0		48·6		−·0034	−·0010	− 2·9	+ 2·8	−·0031
47	195·1	51·7		48·6		−·0033	−·0010	− 2·7	+ 2·7	−·0030
52	195·5	51·8		48·7		−·0032	−·0009	− 2·5	+ 2·7	−·0029
57	195·8	51·8		48·8		−·0032	−·0008	− 2·4	+ 2·8	−·0029
01 02	195·9	52·0	62·0	48·8	61·7	−·0032	−·0008	− 2·4	+ 2·8	−·0029
07	196·1	52·0		48·8		−·0031	−·0008	− 2·2	+ 2·7	−·0028
12	196·1	51·9		48·8		−·0031	−·0009	− 2·2	+ 2·6	−·0028
17	196·0	52·1		49·0		−·0031	−·0007	− 2·3	+ 2·8	−·0028
22	195·2	50·9		48·7		−·0033	−·0010	− 2·9	+ 2·7	−·0030
27	195·1	50·7		48·8		−·0033	−·0010	− 2·9	+ 2·7	−·0030
32	195·0	50·0		48·8		−·0034	−·0010	− 3·0	+ 2·8	−·0031
37	194·9	49·7		48·8		−·0035	−·0010	− 3·2	+ 2·9	−·0032
42	194·8	49·9		48·8		−·0034	−·0010	− 3·2	+ 2·8	−·0031
47	194·8	50·0		49·1		−·0034	−·0008	− 3·2	+ 3·1	−·0030
52	194·8	50·0		49·1		−·0034	−·0008	− 3·2	+ 3·1	−·0030
57	194·7	50·0		49·1		−·0033	−·0009	− 3·3	+ 2·8	−·0030
02 02	194·7	49·9	62·1	49·3	62·0	−·0033	−·0007	− 3·3	+ 3·1	−·0029
07	194·5	49·7		49·3		−·0033	−·0007	− 3·4	+ 3·1	−·0029
12	194·3	49·4		49·3		−·0034	−·0008	− 3·4	+ 3·1	−·0030
17	194·2	48·9		49·4		−·0034	−·0007	− 3·4	+ 3·2	−·0030
22	194·1	48·0		49·4		−·0036	−·0007	− 3·4	+ 3·4	−·0032
27	193·8	47·2		49·7		−·0037	−·0005	− 3·7	+ 3·8	−·0033
32	193·9	47·1		49·8		−·0037	−·0005	− 3·4	+ 3·8	−·0033
37	194·0	46·9		49·8		−·0037	−·0005	− 3·3	+ 3·8	−·0033
42	194·0	47·1		49·8		−·0036	−·0005	− 3·2	+ 3·6	−·0032
47	194·5	47·8		49·8		−·0034	−·0005	− 2·8	+ 3·4	−·0030
52	194·5	48·2		49·8		−·0033	−·0006	− 2·7	+ 3·2	−·0029
57	194·3	49·1		50·3		−·0031	−·0002	− 2·8	+ 3·4	−·0027
03 02	194·2	49·1	62·7	50·1	62·5	−·0030	−·0003	− 2·8	+ 3·2	−·0026
07	194·0	49·0		50·2		−·0030	−·0002	− 2·8	+ 3·3	−·0026
12	193·9	49·3		50·2		−·0029	−·0003	− 2·8	+ 3·1	−·0025
17	193·8	49·6		50·2		−·0028	−·0003	− 2·7	+ 2·9	−·0025
22	193·8	49·9		50·2		−·0028	−·0003	− 2·7	+ 2·9	−·0025
27	193·8	49·9		50·2		−·0027	−·0003	− 2·5	+ 2·8	−·0024
32	193·4	49·9		50·3		−·0027	−·0003	− 2·7	+ 2·8	−·0024
37	193·2	50·0		50·3		−·0027	−·0003	− 2·7	+ 2·8	−·0024
42	193·3	50·2		50·3		−·0026	−·0003	− 2·5	+ 2·7	−·0023
47	193·4	50·4		50·3		−·0025	−·0003	− 2·4	+ 2·6	−·0022
52	193·3	50·2		50·4		−·0025	−·0003	− 2·3	+ 2·6	−·0022
57	193·2	50·2		50·4		−·0025	−·0003	− 2·3	+ 2·6	−·0022
04 02	193·0	50·2	63·0	50·4	62·9	−·0025	−·0003	− 2·3	+ 2·6	−·0022
07	193·0	50·4		50·4		−·0024	−·0003	− 2·2	+ 2·5	−·0021
12	192·9	50·9		50·3		−·0023	−·0005	− 2·2	+ 2·1	−·0021
17	192·9	51·1		50·3		−·0023	−·0005	− 2·2	+ 2·1	−·0021
22	192·8	51·4		50·4		−·0022	−·0004	− 2·2	+ 2·1	−·0020
27	192·9	51·4		50·4		−·0022	−·0004	− 2·0	+ 2·1	−·0020
32	192·6	51·7		50·5		−·0021	−·0004	− 2·2	+ 2·0	−·0019

1844. St. Helena. October 21.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
						$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
21 04 37	192·4	51·9		50·5		−·0021	−·0004	− 2·2	+ 2·0	−·0019
42	192·2	51·7		50·4		−·0021	−·0005	− 2·2	+ 1·9	−·0019
47	192·6	51·9		50·5		−·0020	−·0004	− 1·9	+ 1·9	−·0018
52	192·7	52·0		50·5		−·0020	−·0005	− 1·8	+ 1·8	−·0018
57	192·6	52·3		50·5		−·0019	−·0005	− 1·8	+ 1·7	−·0017
05 02	192·4	52·4	63·0	50·5	62·7	−·0019	−·0005	− 1·8	+ 1·7	−·0017
07	192·4	52·7		50·5		−·0018	−·0005	− 1·8	+ 1·5	−·0016
12	192·4	53·1		50·5		−·0017	−·0005	− 1·8	+ 1·4	−·0015
17	192·2	53·5		50·5		−·0016	−·0005	− 2·0	+ 1·3	−·0015
22	192·1	53·5		50·5		−·0016	−·0005	− 2·1	+ 1·3	−·0015
27	192·3	53·5		50·5		−·0016	−·0005	− 2·0	+ 1·3	−·0015
32	192·3	54·0		50·6		−·0014	−·0004	− 2·0	+ 1·2	−·0013
37	192·1	54·1		50·8		−·0014	−·0002	− 2·1	+ 1·4	−·0012
42	192·5	54·1		50·7		−·0014	−·0003	− 1·8	+ 1·3	−·0013
47	192·5	54·1		50·7		−·0014	−·0003	− 1·8	+ 1·3	−·0013
52	192·6	54·1		50·7		−·0013	−·0003	− 1·8	+ 1·2	−·0012
57	192·6	54·0		50·7		−·0013	−·0003	− 1·8	+ 1·2	−·0012
06 02	192·8	54·0	63·2	50·4	63·0	−·0013	−·0006	− 1·7	+ 0·8	−·0012
07	193·0	54·1		50·2		−·0013	−·0007	− 1·6	+ 0·7	−·0012
12	193·1	54·1		50·2		−·0013	−·0007	− 1·5	+ 0·7	−·0012
17	193·2	54·1		50·2		−·0013	−·0007	− 1·5	+ 0·7	−·0012
22	193·4	54·0		50·2		−·0013	−·0007	− 1·4	+ 0·7	−·0012
27	193·5	54·0		50·3		−·0012	−·0006	− 1·4	+ 0·7	−·0011
32	193·5	54·0		50·3		−·0012	−·0006	− 1·4	+ 0·7	−·0011
37	193·5	53·9		50·3		−·0012	−·0006	− 1·5	+ 0·7	−·0011
42	193·7	53·9		50·3		−·0012	−·0006	− 1·4	+ 0·7	−·0011
47	193·8	54·1		50·3		−·0012	−·0006	− 1·3	+ 0·7	−·0011
52	194·0	54·2		50·1		−·0011	−·0007	− 1·3	+ 0·5	−·0010
57	194·0	54·6		50·4		−·0010	−·0005	− 1·3	+ 0·6	−·0009
07 02	194·0	54·9	63·2	50·5	63·2	−·0009	−·0004	− 1·3	+ 0·6	−·0008
08 02	194·9	54·1	62·9	48·0	63·0	−·0010	−·0022	− 0·9	− 1·4	−·0012
09 02	195·9	57·1	62·7	48·0	62·5	−·0004	−·0021	− 0·4	− 2·0	−·0006

1844. Cape of Good Hope. October 20.

For Mean Monthly Readings, *see* page 399.

CAPE OF GOOD HOPE, 1844. OCTOBER 20—21.

The H. F. and V. F. were observed *immediately* after the times specified.

20 12 00	51·0	44·2	61·2	6·4	61·2	·0000	−·0001	− 0·7	− 0·2	−·0001
13 00	50·4	45·0	61·0	7·2	61·0	+·0001	−·0001	− 1·1	− 0·3	·0000
14 00	48·3	43·4	60·9	10·7	60·9	−·0003	+·0004	− 2·3	+ 1·2	+·0002
15 00	47·4	50·6	60·8	7·3	60·8	+·0012	−·0001	− 3·0	− 2·1	+·0004
30	44·1	49·0		9·6		+·0008	+·0003	− 5·3	− 0·8	+·0005
45	44·0	49·5		9·6		+·0009	+·0003	− 5·4	− 1·0	+·0005
16 00	43·4	48·9	60·7	9·9	60·9	+·0007	+·0003	− 5·8	− 0·7	+·0004
15	45·0	47·5		9·3		+·0004	+·0002	− 4·5	− 0·3	+·0003
30	47·0	49·5		6·4		+·0008	−·0002	− 3·0	− 1·7	+·0002
45	45·0	49·2		7·9		+·0007	·0000	− 4·4	− 1·2	−·0002
17 00	44·2	47·4	60·6	9·2	60·8	+·0003	+·0002	− 5·0	− 0·2	−·0002
15	44·2	44·9		10·9		−·0003	+·0004	− 4·9	+ 1·2	+·0002
30	43·0	44·9		13·2		−·0004	+·0007	− 5·6	+ 1·8	+·0003
45	40·6	45·2		14·5		−·0003	+·0009	− 7·2	+ 2·0	+·0005
18 00	41·0	44·9	60·5	13·3	60·6	−·0004	+·0007	− 6·8	+ 1·8	+·0003
15	40·5	44·5		12·8		−·0006	+·0006	− 6·8	+ 2·0	+·0002
30	42·0	44·5		9·9		−·0006	+·0002	− 5·5	+ 1·3	−·0001
45	44·9	44·8		7·4		−·0006	−·0002	− 3·0	+ 0·7	−·0003
19 00	47·5	44·7	60·4	5·0	60·6	−·0007	−·0006	− 0·8	+ 0·2	−·0006
15	47·5	45·4		4·5		−·0006	−·0006	− 0·5	0·0	−·0006
30	48·9	45·8		3·7		−·0005	−·0008	+ 0·9	− 0·5	−·0007
45	49·6	44·4		3·9		−·0008	−·0007	+ 1·8	+ 0·2	−·0007

OBSERVATIONS OF THE MAGNETOMETERS.

The H. F. and V. F. were observed *immediately* after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
						$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm.	Sc. Div.	Therm.	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
20 20 00	48·0	44·5	60·4	5·7	60·7	−·0008	−·0005	+ 0·9	+ 0·5	−·0006
15	48·2	43·7		5·7		−·0009	−·0005	+ 1·1	+ 0·7	−·0006
30	48·2	42·2		6·5		−·0011	−·0003	+ 1·1	+ 1·3	−·0006
45	48·0	41·5		7·3		−·0012	−·0001	+ 1·1	+ 1·8	−·0005
21 00	48·1	41·0	60·6	7·2	60·9	−·0012	−·0001	+ 1·1	+ 1·8	−·0005
15	48·0	39·6		7·2		−·0014	·0000	+ 0·8	+ 2·3	−·0005
30	48·3	37·7		8·1		−·0017	+·0002	+ 0·6	+ 3·1	−·0005
45	48·7	33·3		9·9		−·0026	+·0006	+ 0·6	+ 5·3	−·0005
22 00	50·4	32·0	61·0	9·9	61·2	−·0028	+·0006	+ 1·6	+ 5·6	−·0006
15	50·9	31·3		9·6		−·0029	+·0006	+ 1·5	+ 5·8	−·0007
30	52·1	30·3		9·3		−·0030	+·0007	+ 2·3	+ 6·1	−·0006
45	53·0	30·7		9·3		−·0028	+·0007	+ 2·2	+ 5·8	−·0006
23 00	52·4	31·2	61·4	9·8	61·4	−·0027	+·0008	+ 1·3	+ 5·8	−·0005
15	51·6	31·5		10·4		−·0026	+·0009	+ 0·2	+ 5·8	−·0004
30	51·5	32·3		10·5		−·0023	+·0010	− 0·2	+ 5·4	−·0002
45	51·2	32·0		9·7		−·0024	+·0009	− 0·9	+ 5·4	−·0003
21 00 00	51·0	31·0	61·7	10·4	61·7	−·0025	+·0010	− 1·4	+ 5·8	−·0003
15	50·7	29·0		12·2		−·0030	+·0012	− 1·9	+ 6·9	−·0003
30	50·2	29·2		12·6		−·0030	+·0012	− 2·5	+ 6·9	−·0003
45	51·3	31·1		10·0		−·0026	+·0009	− 1·9	+ 5·8	−·0004
01 00	52·0	31·2	62·3	8·2	62·2	−·0026	+·0006	− 1·6	+ 5·3	−·0005
15	52·1	31·1		7·2		−·0026	+·0004	− 1·6	+ 4·9	−·0007
30	50·9	29·2		10·3		−·0030	+·0008	− 2·4	+ 6·3	−·0006
45	50·9	29·0		10·4		−·0031	+·0007	− 3·2	+ 6·3	−·0007
02 00	50·1	29·3	62·7	10·6	62·6	−·0030	+·0007	− 3·0	+ 6·1	−·0006
15	50·0	28·3		10·9		−·0032	+·0006	− 2·8	+ 6·3	−·0008
30	49·0	26·2		13·8		−·0036	·0000	− 3·4	+ 7·6	−·0006
45	48·1	28·7		13·8		−·0030	+·0009	− 3·8	+ 6·4	−·0005
03 00	48·0	30·7	63·2	11·2	62·8	−·0026	+·0004	− 3·7	+ 4·9	−·0007
15	47·4	31·5		11·2		−·0023	+·0004	− 3·8	+ 4·4	−·0006
30	47·3	31·8		10·5		−·0022	+·0003	− 3·6	+ 4·1	−·0006
45	47·8	32·2		9·6		−·0021	+·0001	− 3·0	+ 3·6	−·0007
04 00	47·5	31·7	63·4	9·6	63·0	−·0022	·0000	− 2·9	+ 3·6	−·0008
15	47·1	32·2		8·9		−·0020	·0000	− 3·2	+ 3·3	−·0007
30	47·2	32·4		8·9		−·0020	·0000	− 3·7	+ 3·3	−·0007
45	47·1	32·8		8·5		−·0019	−·0001	− 3·7	+ 3·0	−·0007
05 00	47·0	33·0	63·6	8·3	63·1	−·0018	−·0001	− 2·9	+ 2·8	−·0007
15	46·9	34·9		6·6		−·0014	−·0001	− 3·1	+ 2·1	−·0006
30	46·5	35·9		6·6		−·0011	−·0002	− 3·5	+ 1·5	−·0005
45	47·2	36·2		4·8		−·0011	−·0005	− 3·0	+ 1·0	−·0007
06 00	47·3	36·0	63·6	4·8	63·0	−·0011	−·0005	− 0·3	+ 1·0	−·0007
15	47·5	36·5		4·3		−·0010	−·0005	− 2·9	+ 0·8	−·0007
30	48·1	36·6		4·0		−·0010	−·0006	− 2·6	+ 0·7	−·0007
45	48·2	37·0		4·7		−·0009	−·0005	− 2·5	+ 0·7	−·0006
07 00	48·1	38·0	63·3	4·0	62·8	−·0006	−·0005	− 2·6	+ 0·2	−·0005
15	48·0	39·9		3·1		−·0002	−·0007	− 2·7	− 0·8	−·0005
30	49·0	39·0		3·1		−·0005	−·0007	− 2·0	− 0·3	−·0006
45	49·4	38·2		3·1		−·0007	−·0007	− 1·7	0·0	−·0007
08 00	49·4	37·6	62·9	4·4	62·8	−·0008	−·0005	− 1·7	+ 0·5	−·0006
15	49·9	38·0		4·0		−·0008	−·0005	− 1·3	+ 0·5	−·0006
30	49·2	39·5		4·6		−·0005	−·0004	− 1·8	+ 0·2	−·0004
45	49·4	40·8		3·5		−·0003	−·0006	− 1·7	− 0·5	−·0005
09 00	50·1	42·6	62·7	1·7	62·7	+·0001	−·0008	− 1·1	− 1·5	−·0005
15	50·5	43·0		2·0		+·0002	−·0007	− 0·9	− 1·5	−·0004
30	50·9	44·3		0·8		+·0004	−·0009	− 0·7	− 2·1	−·0004
45	51·0	44·6		1·1		+·0005	−·0009	− 0·6	− 2·3	−·0004
10 00	50·9	43·2	62·4	2·9	62·5	+·0002	−·0006	− 0·8	− 1·3	−·0003
11 00	51·0	43·5	62·2	3·8	62·2	+·0001	−·0005	− 0·7	− 1·0	−·0003

1844. Toronto.

October 21.

For Mean Monthly Readings, *see* page 398.

TORONTO, 1844. OCTOBER 20.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
20 18 02	128·7	—	45·0	—	47·2	—	—	+ 6·9	—	—
12	81·5	—		—		—	—	−27·0	—	—
17	87·7	—		—		—	—	−22·6	—	—
22	86·2	131·5		15·2		−·0106	−·0077	−23·6	+ 2·4	−·0079
27	90·4	111·9		40·2		−·0124	−·0062	−20·6	+ 5·2	−·0066
32	97·3	107·3		57·2		−·0128	−·0051	−15·6	+ 6·5	−·0056
37	109·2	123·9		57·2		−·0114	−·0051	− 7·1	+ 5·3	−·0055
42	121·6	106·7		71·1		−·0130	−·0042	+ 1·8	+ 7·4	−·0048
47	135·1	122·7		93·0		−·0116	−·0028	+11·6	+ 7·4	−·0034
52	143·1	161·3		93·0		−·0084	−·0028	+17·4	+ 4·7	−·0032
57	139·9	166·2		93·0		−·0080	−·0028	+15·1	+ 4·4	−·0031
19 02	138·9	165·8	44·4	90·0	47·2	−·0081	−·0030	+14·4	+ 4·3	−·0033
07	137·9	173·9		94·7		−·0073	−·0027	+13·7	+ 3·9	−·0030
12	136·8	188·8		96·7		−·0060	−·0026	+13·0	+ 2·9	−·0028
17	138·6	192·2		100·5		−·0057	−·0023	+14·3	+ 2·9	−·0025
22	143·9	205·4		101·3		−·0046	−·0023	+18·1	+ 1·9	−·0025
27	139·7	205·2		107·7		−·0046	−·0019	+15·1	+ 2·3	−·0021
32	135·2	216·4		114·7		−·0036	−·0015	+11·9	+ 1·8	−·0016
37	135·9	230·9		110·2		−·0023	−·0017	+12·4	+ 0·5	−·0017
42	131·9	238·4		101·2		−·0016	−·0023	+ 9·6	− 0·6	−·0023
47	127·8	235·4		99·1		−·0019	−·0024	+ 6·7	− 0·4	−·0024
52	120·8	218·1		104·5		−·0034	−·0021	+ 1·6	+ 1·1	−·0022
57	120·5	212·5		119·9		−·0039	−·0012	+ 1·5	+ 2·3	−·0014
20 02	124·4	218·2	45·5	119·9	47·6	−·0033	−·0012	+ 4·3	+ 1·8	−·0013
07	125·0	215·9		119·9		−·0035	−·0012	+ 4·8	+ 1·9	−·0014
12	124·7	214·3		119·9		−·0037	−·0012	+ 4·6	+ 2·1	−·0014
21 02	119·0	190·7	45·0	111·7	46·6	−·0058	−·0017	+ 0·8	+ 3·5	−·0020
22 02	107·1	209·0	45·0	100·8	46·4	−·0042	−·0023	+ 8·7	+ 1·6	−·0024

1844. Cape of Good Hope.

October 25.

For Mean Monthly Readings, *see* page 399.

CAPE OF GOOD HOPE, 1844. OCTOBER 25—26.

The H. F. and V. F. were observed *immediately* after the times specified.

25 07 00	51·9	41·1	66·8	2·0	66·3	+·0008	−·0006	+ 0·2	− 2·3	−·0001
08 00	52·3	38·0	66·6	4·8	66·2	+·0001	−·0003	+ 0·5	− 0·7	−·0002
09 00	50·3	34·4	66·3	10·4	65·8	−·0009	+·0006	− 1·0	+ 2·5	+·0001
15	51·0	35·1		8·1		−·0008	+·0003	− 0·5	+ 1·8	−·0001
30	51·9	36·0		7·0		−·0006	+·0001	+ 0·1	+ 1·2	−·0001
45	52·0	38·5		4·7		−·0001	−·0002	+ 0·2	− 0·2	−·0002
10 00	50·8	38·4	65·9	5·6	65·8	−·0001	−·0001	− 0·8	0·0	−·0001
15	50·0	39·2		5·3		·0000	−·0001	− 1·4	− 0·2	−·0001
30	50·4	40·0		4·2		+·0002	−·0003	− 1·1	− 0·8	−·0001
45	50·3	40·9		3·9		+·0003	−·0003	− 1·2	− 1·0	−·0001
11 00	50·2	41·2	65·7	3·7	65·6	+·0004	−·0003	− 1·3	− 1·2	−·0001
12 00	50·0	43·8	65·5	2·2	65·3	+·0008	−·0005	− 1·4	− 2·1	·0000
13 00	51·9	46·1	65·2	0·0	65·2	+·0013	−·0009	+ 0·1	− 3·6	−·0001
30	51·0	45·0		2·5		+·0010	−·0006	− 0·5	− 2·6	·0000
14 00	50·0	44·5	65·0	2·7	65·0	+·0008	−·0005	− 1·1	− 2·1	·0000
15 00	49·9	44·0	65·1	3·6	65·1	+·0007	−·0004	− 1·1	− 1·8	·0000
16 00	49·0	44·1	64·9	4·0	64·9	+·0005	−·0003	− 1·6	− 1·3	·0000
17 00	50·0	46·8	64·8	1·5	64·8	+·0011	−·0007	− 0·7	− 3·0	−·0001
18 00	46·1	46·2	64·7	5·6	64·6	+·0008	−·0002	− 2·9	− 1·7	+·0002
19 00	46·1	45·4	64·5	4·1	64·5	+·0003	−·0005	− 1·9	− 1·3	−·0002
20 00	47·0	47·0	64·5	−0·4	64·5	+·0007	−·0008	+ 0·2	− 2·5	−·0003
21 00	48·5	44·0	64·6	−2·2	64·6	+·0003	−·0015	+ 1·4	− 3·0	−·0009
22 00	51·3	41·8	64·6	−4·0	64·6	+·0002	−·0011	+ 2·3	− 2·1	−·0006
15	52·0	41·3		−3·5		+·0001	−·0010	+ 2·3	− 1·8	−·0006

1844.
Cape of Good Hope.

October 25—26.

OBSERVATIONS OF THE MAGNETOMETERS.

The H. F. and V. F. were observed *immediately* after the times specified.

Mean Göttingen Time.			Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
								$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D.	H.	M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
25	22	30	52·7	40·6		−2·9		·0000	−·0009	+ 2·4	− 1·5	−·0006
		45	53·1	37·0		−0·9		−·0007	−·0006	+ 2·3	+ 0·2	−·0006
	23	00	54·5	33·9	64·7	1·3	64·8	−·0013	−·0002	+ 2·9	+ 1·8	−·0006
		15	54·5	34·4		1·7		−·0012	−·0001	+ 2·4	+ 1·8	−·0005
		30	54·6	36·7		0·7		−·0006	−·0002	+ 2·1	+ 0·7	−·0003
		45	54·8	39·0		−0·8		−·0001	−·0004	+ 1·8	− 0·5	−·0003
26	00	00	54·6	40·6	64·9	−2·1	65·0	+·0003	−·0006	+ 1·3	− 1·5	+·0003
		15	54·6	42·0		−2·3		+·0006	−·0006	+ 1·1	− 2·0	−·0002
		30	55·1	42·5		−2·3		+·0006	−·0007	+ 1·2	− 2·1	−·0002
		45	55·2	43·3		−2·3		+·0008	−·0007	+ 1·1	− 2·5	−·0002
	01	00	54·4	43·9	65·2	−1·3	65·2	+·0009	−·0006	+ 0·2	− 2·5	−·0001
		15	54·1	44·7		−1·3		+·0010	−·0007	0·0	− 2·8	−·0001
		30	54·0	44·7		−0·7		+·0010	−·0006	− 0·1	− 2·6	·0000
		45	53·9	44·3		0·1		+·0009	−·0006	− 0·2	− 2·5	−·0001
	02	00	54·1	44·4	65·5	0·2	65·4	+·0009	−·0007	0·0	− 2·6	−·0001
		15	54·2	43·7		0·2		+·0008	−·0007	+ 0·3	− 2·5	−·0002
		30	54·0	43·8		2·0		+·0008	−·0006	+ 0·4	− 2·3	−·0001
		45	53·5	41·6		3·6		+·0004	−·0004	+ 0·2	− 1·3	−·0001
	03	00	53·4	41·0	65·6	4·5	65·5	+·0002	−·0004	+ 0·4	− 1·0	−·0002
		15	53·1	40·6		5·3		+·0002	−·0003	+ 0·5	− 0·8	−·0001
		30	52·1	39·1		7·4		−·0001	−·0001	0·0	0·0	−·0001
		45	51·3	38·1		9·0		−·0003	+·0001	− 0·4	+ 0·7	·0000
	04	00	51·2	37·9	65·7	9·3	65·6	−·0003	+·0001	− 0·2	+ 0·7	·0000
		15	51·0	37·2		9·6		−·0004	+·0002	− 0·2	+ 1·0	·0000
		30	50·9	37·3		9·3		−·0004	+·0002	− 0·2	+ 1·0	·0000
		45	50·6	37·3		9·3		−·0004	+·0003	− 0·3	+ 1·0	·0000
	05	00	49·7	36·7	65·7	9·8	65·5	−·0005	+·0003	− 0·9	+ 1·3	·0000
		15	47·8	38·2		9·8		−·0002	+·0003	− 2·4	+ 0·8	+·0001
		30	45·3	42·3		9·8		+·0007	+·0003	− 4·4	− 0·7	+·0004
		45	48·8	42·5		9·0		+·0007	+·0002	− 1·8	− 0·8	+·0004
	06	00	49·0	40·8	65·3	4·7	65·1	+·0003	+·0004	− 1·7	− 1·2	−·0002
		15	49·5	41·6		2·7		+·0005	−·0006	− 1·4	− 1·8	−·0002
		30	50·5	41·4		2·7		+·0005	−·0006	− 0·8	− 1·8	−·0002
	07	00	51·5	41·8	64·9	2·0	64·8	+·0006	−·0007	− 0·1	− 2·1	−·0002
	08	00	51·5	41·8	64·6	3·7	64·4	+·0005	−·0005	− 0·1	− 1·7	−·0001
	09	00	49·0	45·3	63·9	3·7	64·0	+·0010	−·0005	− 2·0	− 2·5	·0000
		15	49·4	—		—		—	—	− 1·8	—	—
	10	00	49·5	40·5	63·4	8·0	63·5	−·0002	+·0002	− 1·8	+ 0·7	+·0001
		15	51·0	42·2		6·0		+·0001	−·0001	− 0·7	− 0·3	·0000
		30	52·0	43·6		5·6		+·0004	−·0002	+ 0·1	− 1·0	·0000
		45	52·4	45·7		3·1		+·0008	−·0005	+ 0·4	− 2·1	·0000
	11	00	53·4	47·1	63·2	1·3	63·2	+·0011	−·0008	+ 1·1	− 3·1	−·0001

1844.
Van Diemen Island.

October 25—26.

For Mean Monthly Readings, *see* page 394.

VAN DIEMEN ISLAND, 1844. OCTOBER 25—26.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

25	21	02	80·5	102·0	52·4	115·3	51·0	−·0015	·0000	+ 2·5	+ 1·6	−·0002
	22	02	74·9	105·0	52·0	109·5	50·8	−·0008	−·0002	− 0·8	+ 0·7	−·0003
	23	02	62·3	118·6	52:0	72·5	50·5	+·0022	−·0016	− 8·6	− 4·1	−·0012
		12	63·8	113·0		74·2		+·0009	−·0015	− 7·5	− 2·6	−·0012
		17	62·5	112·7		79·2		+·0009	−·0013	− 8·4	− 2·4	−·0011
		22	65·9	112·0		86·3		+·0007	−·0011	− 6·1	− 1·9	−·0009
		27	69·5	104·0		91·0		−·0011	−·0009	− 3·4	+ 0·2	−·0009
		32	66·5	102·2		96·4		−·0015	−·0008	− 5·6	+ 0·8	−·0009
		37	63·1	101·0		101·9		−·0018	−·0006	− 7·9	+ 1·3	−·0007
		42	63·5	102·2		106·3		−·0015	−·0004	− 7·6	+ 1·2	−·0005
		47	67·3	103·3		109·4		−·0012	−·0003	− 4·9	+ 1·0	−·0004
		52	70·1	101·2		113·3		−·0017	−·0002	− 2·9	+ 1·6	−·0004
		57	71·7	102·6		114·7		−·0014	−·0001	− 1·7	+ 1·4	−·0002
26	00	02	73·2	101·3	51·8	117·1	50·5	−·0017	−·0001	− 0·6	+ 1·7	−·0003

1844. Van Diemen Island. November 11.

VAN DIEMEN ISLAND, 1844. NOVEMBER 11.

MEAN MONTHLY READINGS OF THE MAGNETOMETERS.

Mean Göttingen Time.	Declination.	H. F. at 57°·0.	V. F. at 55°·7.	Mean Göttingen Time.	Declination.	H. F. at 57°·0.	V. F. at 55°·7.
Hours.	Sc. Div.	Sc. Div.	Sc. Div.	Hours.	Sc. Div.	Sc. Div.	Sc. Div.
00	72·8	106·2	120·0	12	68·8	101·3	118·4
01	73·7	105·6	121·6	13	71·5	100·6	120·5
02	72·5	105·6	120·8	14	74·7	100·6	120·4
03	72·8	105·9	120·7	15	78·4	101·8	120·2
04	73·5	106·6	120·8	16	81·2	103·9	119·5
05	73·6	106·1	119·8	17	82·6	105·5	120·0
06	73·5	105·6	118·4	18	81·8	106·3	119·8
07	73·6	105·0	118·9	19	81·1	106·6	120·6
08	72·7	105·0	118·2	20	79·3	106·6	121·6
09	71·6	104·8	116·0	21	77·5	106·4	122·3
10	70·0	104·3	115·5	22	76·1	106·2	123·0
11	68·7	103·1	116·5	23	74·9	106·0	121·5

Coefficients (A), Approximate Absolute Values (B.)

(A) Declin. $a = 0'\cdot71$; H. F. $k = \cdot000229$, $q = \cdot000230$; V. F. $k = \cdot000053$, $q = \cdot00021$

(B) Approx. $\psi = -9°\ 55'$, $X = 4\cdot51$, $Y = 12\cdot86$, $\theta = -70°\ 37'$, $\phi = 13\cdot62$

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
						$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
11 00 02	64·6	107·7	57·0	112·8	56·5	+·0004	−·0002	− 5·8	− 0·7	−·0001
17	66·1	106·5		116·7		+·0001	·0000	− 4·9	− 0·1	·0000
22	67·3	104·6		117·9		−·0003	·0000	− 4·2	+ 0·3	·0000
27	66·1	103·3		119·4		−·0006	+·0001	− 5·1	+ 0·8	·0000
32	65 6	103·8		120·9		−·0005	+·0002	− 5·5	+ 0·8	+·0001
37	65·6	103·9		120·5		−·0004	+·0002	− 5·5	+ 0·7	+·0001
42	66·4	103·5		121·9		−·0005	+·0002	− 5·0	+ 0·8	+·0001
47	67·3	103·0		122·8		−·0006	+·0003	− 4·4	+ 1·0	+·0002
52	68·7	102·7		124·9		−·0007	+·0004	− 3·4	+ 1·2	+·0003
57	69·2	103·1		124·3		−·0006	+·0003	− 3·1	+ 1·0	+·0002
01 02	71·0	102·8	57·0	124·1	56·6	−·0006	+·0003	− 1·9	+ 1·0	+·0002
07	70·1	102·9		124·3		−·0006	+·0003	− 2·5	+ 1·0	+·0002
12	70·3	102·7		123·6		−·0007	+·0003	− 2·2	+ 1·1	+·0002
17	70·1	—		—		—	—	− 2·3	—	—
02 02	69·0	105·0	57·0	119·1	56·5	−·0001	+·0001	− 2·5	+ 0·2	+·0001
03 02	70·2	103·0	57·0	122·8	56·5	−·0007	+·0003	− 1·8	+ 1·1	+·0002

1844. Cape of Good Hope. November.

CAPE OF GOOD HOPE, 1844. NOVEMBER 11—12, 15—16.

MEAN MONTHLY READINGS OF THE MAGNETOMETERS.

Mean Göttingen Time.	Declination.	H. F. at 65°·5.	V. F. at 65°·3.	Mean Göttingen Time.	Declination.	H. F. at 65°·5.	V. F. at 65°·3.
Hours.	Sc. Div.	Sc. Div.	Sc. Div.	Hours.	Sc. Div.	Sc. Div.	Sc. Div.
00	51·6	51·8	10·2	12	51·5	52·9	13·8
01	53·1	52·6	9·7	13	51·1	53·1	13·8
02	53·1	52·9	11·4	14	50·7	52·9	14·1
03	52·6	53·1	13·0	15	50·6	53·1	13·8
04	51·6	52·7	14·0	16	50·1	53·3	14·3
05	51·2	51·7	15·1	17	49·0	53·8	15·4
06	51·2	51·4	14·6	18	47·4	54·8	15·9
07	51·1	51·1	14·5	19	45·6	55·1	16·3
08	51·2	51·3	14·2	20	44·6	54·8	15·6
09	51·3	51·8	13·9	21	45·2	54·0	13·4
10	51·5	52·0	13·4	22	47·2	53·1	11·1
11	51·5	52·6	13·4	23	49·7	52·7	9·7

Coefficients (A), Approximate Absolute Values (B).

(A) Declin. $a = 0'\cdot751$; H. F. $k = \cdot00022$, $q = \cdot00022$; V. F. $k = \cdot00014$, $q = \cdot00005$

(B) Approx. $\psi = 29°\ 05'$, $X = 4\cdot46$, $Y = 6\cdot00$, $\theta = -53°\ 28'$, $\phi = 7\cdot50$

1844.
Cape of Good Hope

Nov. 11—12, and 15

OBSERVATIONS OF THE MAGNETOMETERS.

The H. F. and V. F. were observed *immediately* after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
						$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
11 04 00	51·8	55·4	63·2	2·8	62·8	+·0001	−·0017	+ 0·2	− 3·0	−·0011
05 00	50·9	49·3	63·3	6·7	63·0	−·0010	−·0013	− 0·2	− 0·5	−·0012
06 00	51·0	48·1	63·5	6·8	62·8	−·0012	−·0012	− 0·2	0·0	−·0012
30	51·0	47·5		6·3		−·0013	−·0013	− 0·1	0·0	−·0013
07 00	50·7	46·6	63·1	7·1	62·8	−·0015	−·0012	− 0·3	+ 0·5	−·0013
30	49·0	49·4		7·1		−·0010	−·0012	− 1·7	− 0·3	−·0011
08 00	50·0	51·0	62·7	4·1	62·6	−·0007	−·0016	− 0·9	− 1·5	−·0013
30	49·0	49·3		5·9		−·0011	−·0013	− 1·7	− 0·3	−·0012
09 00	48·7	49·2	62·6	6·6	62·5	−·0012	−·0012	− 2·0	0·0	−·0012
30	48·5	49·3		6·6		−·0013	−·0011	− 2·2	+ 0·3	−·0012
10 00	48·4	49·4	62·2	6·2	62·3	−·0013	−·0012	− 2·3	− 0·2	−·0012
30	48·4	49·4		6·2		−·0014	−·0012	− 2·3	+ 0·3	−·0015
11 00	48·8	50·0	62·1	5·3	62·2	−·0013	−·0013	− 2·0	0·0	−·0013
30	49·5	51·1		4·0		−·0011	−·0015	− 1·5	− 0·7	−·0014
12 00	49·5	51·6	61·9	3·4	62·1	−·0011	−·0016	− 1·5	− 0·8	−·0014
30	49·0	53·0		4·1		−·0008	−·0015	− 1·7	− 1·2	−·0013
13 00	48·2	53·6	61·7	4·8	62·0	−·0007	−·0014	− 2·2	− 1·2	−·0012
30	47·8	53·9		4·0		−·0007	−·0016	− 2·3	− 1·5	−·0013
14 00	48·7	52·6	61·6	3·7	61·8	−·0009	−·0016	− 1·5	− 1·2	−·0014
15 00	49·2	52·6	61·5	3·1	61·6	−·0010	−·0017	− 1·0	− 1·2	−·0015
16 00	48·3	53·8	61·4	4 8	61·6	−·0008	−·0015	− 1·3	− 1·2	−·0013
17 00	46·4	55·3	61·4	4·8	61·6	−·0006	−·0017	− 2·0	− 1·8	−·0013
18 00	45·0	57·2	61·4	3·3	61·6	−·0004	−·0020	− 1·8	− 2·6	−·0014
19 00	44·0	58·2	61·6	2·7	61·8	−·0002	−·0021	− 1·2	− 3·1	−·0014
20 00	40·3	57·7	61·7	4·0	61·9	−·0002	−·0018	− 3·2	− 2·6	−·0012
30	39·2	56·8		3·8		−·0003	−·0017	− 4·3	− 2·3	−·0012
21 00	39·5	53·9	61·9	2·8	62·1	−·0008	−·0017	− 4·3	− 1·5	−·0014
30	40·3	53·0		1·8		−·0008	−·0016	− 4·4	− 1·3	−·0013
22 00	41·2	51·5	62·6	0·4	62·6	−·0010	−·0016	− 4·5	− 1·0	−·0014
30	43·0	52·5		−1·5		−·0007	−·0018	− 4·1	− 1·8	−·0014
23 00	45·6	53·0	63·1	−4·0	63·1	−·0005	−·0020	− 3·1	− 2·5	−·0015
30	48·1	52·8		−5·7		−·0003	−·0023	− 2·0	− 3·3	−·0016
12 00 00	50·0	52·8	63·8	−6·5	63·5	−·0002	−·0024	− 1·2	− 3·6	−·0016
30	51·5	53·2		−7·2		·0000	−·0025	− 0·7	− 4·1	−·0016
01 00	52·5	53·9	64·7	−7·6	64·1	+·0001	−·0025	− 0·5	− 4·3	−·0016
30	53·5	53·9		−7·6		+·0002	−·0026	+ 0·3	− 4·6	−·0016
02 00	53·1	54·5	65·5	−5·9	64·7	+·0004	−·0025	0·0	− 4·8	−·0015
30	53·0	54·7		−5·3		+·0004	−·0025	+ 0·2	− 4·8	−·0015
03 00	53·0	54·7	66·0	−4·3	65·2	+·0005	−·0024	+ 0·3	− 4·8	−·0014
30	52·9	53·7		−2·2		+·0004	−·0022	+ 0·6	− 4·3	−·0013
04 00	52·2	50·8	66·6	1·7	65·7	−·0002	−·0017	+ 0·5	− 2·5	−·0012
30	50·2	47·0		6·2		−·0009	−·0012	− 0·9	− 0·5	−·0011
05 00	50·0	45·6	66·8	6·2	65·7	−·0011	−·0012	− 0·9	− 0·2	−·0012
30	49·5	46·6		4·2		−·0008	−·0014	− 1·3	− 1·0	−·0012
06 00	50·0	49·0	67·1	0·2	66·3	−·0002	−·0020	− 0·9	− 3·0	−·0014
30	50·5	50·4		−2·1		+·0002	−·0023	− 0·5	− 4·1	−·0014
07 00	51·4	50·6	67·1	−2·7	66·4	+·0002	−·0024	+ 0·2	− 4·3	−·0015
30	51·4	50·0		−2·0		+·0001	−·0022	+ 0·2	− 3·8	−·0014
08 00	51·0	49·3	67·1	−1·0	66·4	−·0001	−·0021	− 0·2	− 3·3	−·0014
30	51·2	49·5		−0·7		−·0002	−·0020	− 0·1	− 3·0	−·0014
09 00	52·6	49·9	66·7	−0·7	66·2	−·0002	−·0020	+ 1·0	− 3·0	−·0014
15 14 00	52·9	59·9	62·6	9·9	62·6	+·0009	−·0007	+ 1·7	− 2·6	−·0001
15 00	52·0	61·0	62·1	10·1	62·3	+·0010	−·0007	+ 1·1	− 2·8	−·0001
16 00	50·0	62·2	62·0	11·1	62·1	+·0012	−·0006	− 0·1	− 3·0	·0000
17 00	49·1	64·2	61·9	11·4	62·1	+·0015	−·0007	+ 0·1	− 3·6	+·0001
18 00	47·4	68·5	61·7	10·0	61·9	+·0022	−·0010	0·0	− 5·3	+·0001
15	47·0	69·1		10·3		+·0023	−·0010	+ 0·1	− 5·4	+·0002
30	46·1	70·4		10·3		+·0026	−·0010	− 0·3	− 5·9	+·0003
45	45·2	70·0		10·7		+·0025	−·0009	− 0·6	− 5·6	+·0003
19 00	43·3	69·0	61·7	12·3	61·9	+·0022	−·0007	− 1·7	− 4·8	+·0003
15	43·6	68·0		12·3		+·0020	−·0007	− 1·3	− 4·4	+·0003
30	43·2	67·3		13·0		+·0019	−·0006	− 1·4	− 4·1	+·0003

1844.
Cape of Good Hope.

November 15—16.

OBSERVATIONS OF THE MAGNETOMETERS.

The H. F. and V. F. were observed *immediately* after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
15 19 45	41·8	66·8		13·0		+·0018	−·0006	− 2·3	− 4·0	+·0003
20 00	41·5	65·2	61·8	14·3	61·8	+·0015	−·0004	− 2·3	− 3·1	+·0003
15	41·9	63·0		15·3		+·0010	−·0001	− 2·2	− 1·8	+·0003
30	41·5	60·3		16·3		+·0005	+·0001	− 2·6	− 0·7	+·0002
45	42·3	58·1		17·4		·0000	+·0003	− 2·1	+ 0·5	+·0002
21 00	42·5	56·2	61·8	18·1	62·1	−·0003	+·0005	− 2·0	+ 1·3	+·0002
15	43·9	55·9		17·1		−·0003	+·0005	− 1·4	+ 1·3	+·0002
30	45·1	56·8		15·2		·0000	+·0003	− 0·8	+ 0·5	+·0002
45	46·0	57·2		13·6		+·0001	+·0001	− 0·5	0·0	+·0001
22 00	46·1	55·4	62·3	13·6	62·4	−·0002	+·0002	− 0·8	+ 0·7	+·0001
15	48·0	56·3		11·7		·0000	·0000	+ 0·2	0·0	·0000
30	48·0	55·1		11·7		−·0002	+·0001	− 0·4	+ 0·5	·0000
45	47·8	53·8		12·3		−·0004	+·0002	− 1·0	+ 1·0	·0000
23 00	48·0	52·3	62·7	12·6	62·7	−·0007	+·0003	− 1·3	+ 1·7	−·0001
15	48·0	50·4		13·2		−·0011	+·0004	− 1·7	+ 2·5	−·0001
30	49·0	48·1		14·5		−·0015	+·0005	− 1·3	+ 3·3	−·0002
45	50·5	47·2		14·5		−·0016	+·0005	− 0·5	+ 3·5	−·0002
16 00 00	49·0	43·1	63·1	17·0	63·0	−·0024	+·0008	− 2·0	+ 5·3	−·0003
15	51·0	42·9		16·2		−·0025	+·0007	− 0·8	+ 5·3	−·0004
30	52·1	40·6		16·2		−·0030	+·0008	− 0·2	+ 6·3	−·0006
45	55·5	42·9		13·2		−·0025	+·0004	+ 2·1	+ 4·8	−·0006
01 00	54·0	41·7	63·7	15·6	63·4	−·0028	+·0007	+ 0·7	+ 5·8	−·0006
15	51·8	41·8		17·4		−·0028	+·0009	− 1·0	+ 6·1	−·0004
30	51·9	43·9		15·6		−·0023	+·0006	− 0·9	+ 4·8	−·0004
45	55·9	44·6		11·2		−·0022	−·0001	+ 2·1	+ 3·5	−·0008
02 00	53·0	44·9	64·0	13·6	63·7	−·0021	+·0002	− 0·1	+ 3·8	−·0006
15	53·3	47·2		11·8		−·0016	−·0001	+ 0·2	+ 2·5	−·0006
30	53·2	47·7		10·9		−·0015	−·0003	+ 0·3	+ 2·0	−·0007
45	53·9	47·0		11·6		−·0016	−·0002	+ 0·9	+ 2·3	−·0007
03 00	55·0	43·2	64·4	12·6	63·9	−·0024	−·0001	+ 1·8	+ 3·8	−·0009
15	55·0	40·7		15·6		−·0029	+·0003	+ 2·0	+ 5·3	−·0008
30	52·9	40·7		19·5		−·0029	+·0008	+ 0·6	+ 6·1	−·0005
45	52·9	40·5		18·5		−·0029	+·0006	+ 0·8	+ 5·8	−·0007
04 00	53·8	36·8	64·6	19·7	64·1	−·0037	+·0007	+ 1·7	+ 7·3	−·0009
15	52·0	34·8		21·9		−·0041	+·0010	+ 0·4	+ 8·4	−·0008
30	51·9	36·2		21·6		−·0037	+·0009	+ 0·4	+ 7·6	−·0007
45	53·2	37·0		19·5		−·0035	+·0006	+ 1·4	+ 6·8	−·0009
05 00	51·7	35·0	64·6	21·7	64·1	−·0039	+·0009	+ 0·4	+ 7·9	−·0008
15	53·4	35·8		19·1		−·0037	+·0005	+ 1·7	+ 6·9	−·0010
30	51·0	36·7		22·8		−·0035	+·0011	− 0·2	+ 7·6	−·0005
45	49·8	35·8		22·1		−·0037	+·0010	− 1·1	+ 7·7	−·0007
06 00	50·7	32·7	64·4	22·4	64·1	−·0044	+·0010	− 0·4	+ 8·9	−·0009
15	52·1	32·6		22·6		−·0044	+·0011	+ 0·7	+ 9·1	−·0009
30	48·9	33·8		24·7		−·0041	+·0014	− 1·7	+ 9·1	−·0006
45	47·0	34·1		26·3		−·0040	+·0016	− 3·1	+ 9·2	−·0004
07 00	47·0	41·1	64·3	20·3	64·0	−·0025	+·0007	− 3·1	+ 5·3	−·0004
15	47·7	37·8		20·1		−·0032	+·0007	− 2·6	+ 6·4	−·0007
30	46·4	35·8		23·4		−·0037	+·0012	− 3·6	+ 8·1	−·0006
45	46·1	33·4		24·2		−·0043	+·0013	− 3·8	+ 9·2	−·0007
08 00	44·8	33·5	64·0	24·7	63·7	−·0043	+·0014	− 4·8	+ 9·4	−·0006
15	45·0	33·4		23·8		−·0043	+·0013	− 4·7	+ 9·2	−·0007
30	44·6	34·8		22·6		−·0041	+·0011	− 5·0	+ 8·6	−·0008
45	45·6	40·2		18·8		−·0029	+·0006	− 4·3	+ 5·8	−·0007
09 00	43·3	45·8	63·7	14·6	63·5	−·0017	·0000	− 6·0	+ 2·8	−·0006
15	47·0	45·4		10·1		−·0019	−·0006	− 3·3	+ 2·1	−·0011
30	46·5	45·0		10·7		−·0020	−·0005	− 3·7	+ 2·5	−·0010
45	47·0	44·8		10·7		−·0020	−·0005	− 3·4	+ 2·5	−·0010
10 00	47·2	45·1	63·4	11·0	63·4	−·0020	−·0004	− 3·2	+ 2·6	−·0010
15	50·0	45·5		9·1		−·0020	−·0007	− 1·1	+ 2·1	−·0012
30	51·1	47·5		7·3		−·0016	−·0010	− 0·3	+ 1·0	−·0012
45	50·7	47·0		8·4		−·0017	−·0008	− 0·6	+ 1·5	−·0011
11 00	48·5	45·9	63·0	11·8	63·3	−·0020	−·0003	− 2·3	+ 2·8	−·0009

TORONTO, 1844. NOVEMBER 16.

MEAN MONTHLY READINGS OF THE MAGNETOMETERS.

Mean Göttingen Time.	Declination.	H. F. at 46°·9.	V. F. at 47°·1.	Mean Göttingen Time.	Declination.	H. F. at 46°·9.	V. F. at 47°·1.
Hours.	Sc. Div.	Sc. Div.	Sc. Div.	Hours.	Sc. Div.	Sc. Div.	Sc. Div.
00	117·2	66·4	62·8	12	117·9	70·5	66·8
01	119·6	67·4	63·7	13	118·9	67·5	67·1
02	120·1	65·2	64·9	14	119·6	67·2	67·3
03	119·9	61·5	64·2	15	120·5	67·1	66·3
04	118·0	57·8	64·4	16	119·8	67·8	66·0
05	114·2	58·0	64·8	17	118·5	65·9	64·2
06	112·4	59·1	65·0	18	117·4	64·8	63·8
07	112·0	61·8	65·9	19	116·9	64·8	64·3
08	112·7	67·0	67·3	20	116·6	64·2	63·7
09	114·3	71·1	67·7	21	118·1	63·5	62·7
10	115·6	71·5	67·1	22	116·7	64·7	63·0
11	116·9	70·3	67·0	23	118·0	66·3	63·1

Coefficients (A), Approximate Absolute Values (B.)

(A) Declin. $a = 0'\cdot721$

H. F. $k = \cdot000087$, $q = \cdot00027$

V. F. $k = \cdot00062$, $q = \cdot00007$

(B) Approx. $\psi = 1°\ 27'$, $X = 3\cdot54$, $Y = 13\cdot44$, $\theta = 75°\ 16'$, $\phi = 13\cdot90$

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.	
D. H. M.	Sc. Div.	Sc. Div.	Therm.	Sc. Div.	Therm.
			°		°
16 03 02	105·8	43·5	46·7	58·9	47·4
04 02	106·9	10·0	47·4	61·2	48·4
07	111·5	20·9		65·9	
12	105·9	33·7		66·0	
17	100·8	34·7		63·9	
22	98·9	38·5		63·9	
27	100·5	41·6		63·2	
32	104·8	30·3		64·3	
37	103·7	36·5		65·2	
42	102·9	38·4		64·2	
47	106·4	31·1		64·2	
52	109·7	38·5		65·2	
57	105·1	39·2		64·3	
05 02	102·6	41·9	48·4	64·8	48·4
07	103·4	37·3		65·2	
12	102·5	37·5		64·6	
17	108·4	37·0		64·6	
22	109·1	39·5		64·6	
27	113·3	38·3		64·8	
32	107·2	40·8		64·8	
37	106·6	34·8		65·3	
42	109·0	39·8		66·4	
47	111·4	34·0		66·0	
52	101·7	27·0		64·6	
57	102·7	16·5		63·9	
06 02	100·9	12·8	49·4	64·2	49·1
07	101·1	21·3		65·2	
12	106·0	31·8		65·8	
17	112·0	40·3		67·3	
22	107·5	41·0		67·6	
27	101·0	35·8		67·6	
32	104·7	41·5		67·6	
37	104·0	41·0		68·0	
42	98·0	44·5		69·5	
47	97·1	40·0		69·5	
52	99·6	33·5		69·0	
57	101·8	23·0		70·6	
07 02	111·6	19·8	50·0	70·6	49·6
07	105·6	14·9		72·8	

Differences from the Mean Monthly Values at the corresponding Hours.

$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
+·0016	−·0003	−10·2	+ 1·1	−·0004
−·0040	−·0001	− 8·0	+ 3·3	−·0004
−·0031	+·0002	− 4·4	+ 2·8	·0000
−·0019	+·0002	− 8·3	+ 1·8	+·0001
−·0018	+·0001	−11·7	+ 1·6	·0000
−·0015	+·0001	−12·8	+ 1·4	·0000
−·0012	·0000	−11·4	+ 1·0	−·0001
−·0021	+·0001	− 8·1	+ 1·9	·0000
−·0016	+·0001	− 8·8	+ 1·4	·0000
−·0014	+·0001	− 9·1	+ 1·3	·0000
−·0020	+·0001	− 6·4	+ 1·8	·0000
−·0013	+·0001	− 3·7	+ 1·2	·0000
−·0013	+·0001	− 6·8	+ 1·2	·0000
−·0010	+·0001	− 8·3	+ 0·9	·0000
−·0014	+·0001	− 7·6	+ 1·3	·0000
−·0014	+·0001	− 8·2	+ 1·3	·0000
−·0014	+·0001	− 3·8	+ 1·3	·0000
−·0012	+·0001	− 3·3	+ 1·1	·0000
−·0012	+·0001	− 0·1	+ 1·1	·0000
−·0010	+·0001	− 4·4	+ 0·9	·0000
−·0015	+·0001	− 4·7	+ 1·4	·0000
−·0011	+·0002	− 2·9	+ 1·1	+·0001
−·0016	+·0002	− 1·0	+ 1·5	+·0001
−·0021	+·0001	− 7·9	+ 1·9	·0000
−·0031	+·0001	− 7·1	+ 2·7	−·0001
−·0034	+·0001	− 8·3	+ 3·0	−·0001
−·0026	+·0002	− 8·1	+ 2·4	·0000
−·0017	+·0002	− 4·5	+ 1·6	+ 0001
−·0010	+·0003	− 0·2	+ 1·1	+·0002
−·0009	+·0003	− 3·5	+ 1·0	+·0002
−·0014	+·0003	− 8·0	+ 1·4	+·0002
−·0009	+·0003	− 5·4	+ 1·0	+·0002
−·0009	+·0003	− 5·9	+ 1·0	+·0002
−·0006	+·0004	−10·2	+ 0·9	+·0003
−·0010	+·0004	−10·8	+ 1·2	+·0003
−·0016	+·0004	− 9·1	+ 1·7	+·0003
−·0025	+·0005	− 7·3	+ 2·5	+·0003
−·0028	+·0005	− 0·3	+ 2·8	+·0003
−·0033	+·0006	− 4·7	+ 3·3	+·0003

1844. Toronto. — November 16.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
16 07 12	104·9	17·9		75·3		−·0031	+·0008	− 5·1	+ 3·3	+·0005
17	106·8	16·5		77·9		−·0032	+·0009	− 3·9	+ 3·5	+·0006
22	101·4	20·8		78·9		−·0029	+·0010	− 7·8	+ 3·3	+·0007
27	99·4	28·5		78·9		−·0022	+·0010	− 9·3	+ 2·7	+·0008
32	98·4	30·1		80·5		−·0021	+·0011	−10·0	+ 2·7	+·0009
37	99·7	32·3		78·4		−·0019	+·0009	− 9·2	+ 2·4	+·0007
42	97·5	33·9		78·4		−·0019	+·0009	−10·8	+ 2·4	+·0007
47	99·8	44·4		76·9		−·0010	+·0008	− 9·2	+ 1·5	+·0007
52	98·5	45·7		78·1		−·0009	+·0009	−10·2	+ 1·5	+·0008
57	99·5	34·5		76·0		−·0019	+·0008	− 9·5	+ 2·3	+·0006
08 02	99·1	30·3	50·3	74·8	50·1	−·0023	+·0007	− 9·8	+ 2·5	+·0005
07	100·0	35·1		75·3		−·0019	+·0007	− 9·3	+ 2·2	+·0005
12	100·5	37·8		75·2		−·0017	+·0007	− 9·1	+ 2·0	+·0005
17	98·5	37·6		74·1		−·0017	+·0006	−10·5	+ 1·9	+·0004
22	98·9	43·2		74·4		−·0012	+·0007	−10·3	+ 1·6	+·0006
27	98·2	41·6		74·4		−·0014	+·0007	−10·9	+ 1·8	+·0006
32	99·8	43·2		74·0		−·0012	+·0006	− 9·9	+ 1·5	+·0005
37	100·2	39·8		72·6		−·0016	+·0006	− 9·7	+ 1·9	+·0005
42	101·7	34·8		71·6		−·0020	+·0005	− 8·8	+ 2·1	+·0003
47	103·9	41·8		73·0		−·0014	+·0006	− 7·2	+ 1·7	+·0005
52	105·8	52·6		73·0		−·0005	+·0006	− 5·9	+ 0·9	+·0005
57	107·5	50·9		75·0		−·0006	+·0007	− 4·8	+ 1·1	+·0006
09 02	103·9	44·0	51·0	75·0	50·5	−·0013	+·0007	− 7·5	+ 1·7	+·0006
07	107·2	39·4		74·5		−·0017	+·0007	− 5·1	+ 2·0	+·0005
12	108·5	40·5		74·5		−·0016	+·0007	− 4·3	+ 1·9	+·0005
17	107·6	46·3		74·5		−·0010	+·0007	− 5·0	+ 1·4	+·0006
22	109·2	48·0		74·5		−·0009	+·0007	− 4·0	+ 1·4	+·0006
27	108·2	45·7		73·0		−·0011	+·0006	− 4·7	+ 1·4	+·0005
32	111·0	42·2		71·4		−·0014	+·0005	− 2·8	+ 1·6	+·0004
37	111·4	40·7		69·9		−·0015	+·0004	− 2·7	+ 1·6	+·0003
42	111·7	44·4		69·9		−·0012	+·0004	− 2·6	+ 1·4	+·0003
47	112·8	48·3		70·4		−·0008	+·0004	− 1·8	+ 1·0	+·0003
52	110·6	47·7		70·6		−·0009	+·0005	− 3·5	+ 1·2	+·0004
57	109·9	44·6		69·2		−·0011	+·0004	− 4·0	+ 1·3	+·0003
10 02	114·2	47·7	51·4	69·4	50·7	−·0009	+·0004	− 1·0	+ 1·1	+·0003

1844. St. Helena. — November.

ST. HELENA, 1844. NOVEMBER 16 and 22.

MEAN MONTHLY READINGS OF THE MAGNETOMETERS.

Mean Göttingen Time.	Declination.	H. F. at 62°·2.	V. F. at 62°·1.	Mean Göttingen Time.	Declination.	H. F. at 62°·2.	V. F. at 62°·1.
Hours.	Sc. Div.	Sc. Div.	Sc. Div.	Hours.	Sc. Div.	Sc. Div.	Sc. Div.
00	196·9	65·6	48·3	12	196·0	59·4	48·9
01	198·0	65·6	48·4	13	195·8	59·4	48·9
02	197·9	65·1	48·5	14	195·4	59·5	48·8
03	197·0	64·5	49·0	15	195·1	59·9	48·7
04	195·7	63·6	49·3	16	194·9	60·1	48·6
05	194·5	62·2	49·5	17	194·5	60·0	48·6
06	194·4	61·1	49·5	18	194·1	60·3	48·6
07	195·0	59·4	49·6	19	194·0	60·8	48·6
08	195·5	58·8	49·4	20	191·9	62·1	48·4
09	195·8	58·7	49·3	21	191·7	63·7	48·2
10	195·9	58·5	49·2	22	193·4	64·7	48·3
11	196·1	59·0	49·0	23	195·3	65·6	48·3

Coefficients (A), Approximate Absolute Values (B).

(A)
- Declin. $a = 0'·712$
- H. F. $k = ·00021$, $q = ·00028$
- V. F. $k = ·00090$, $q = ·00002$

(B) Approx.
- $\psi = 23° 21'$
- X = 5·57
- Y = 2·24
- $\theta = -21° 53'$
- $\phi = 6·00$

1844.
St. Helena.
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OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Mean Göttingen Time.			Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours. $\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D.	H.	M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
16	03	02	198·4	53·1	62·7	49·1	62·4	−·0023	+·0001	+ 1·0	+ 2·8	−·0020
	04	02	198·1	47·1	63·1	49·3	63·0	−·0032	·0000	+ 1·7	+ 3·8	−·0028
		07	197·5	46·9		49·5		−·0032	+·0002	+ 1·3	+ 4·0	−·0027
		12	196·6	46·1		49·7		−·0034	+·0004	+ 0·8	+ 4·5	−·0029
		17	195·6	46·9		49·6		−·0032	+·0003	+ 0·1	+ 4·1	−·0027
		22	195·4	47·3		49·6		−·0031	+·0002	+ 0·1	+ 3·9	−·0027
		27	195·1	47·5		50·0		−·0030	+·0005	− 0·1	+ 4·1	−·0025
		32	194·9	47·2		50·0		−·0030	+·0005	− 0·1	+ 4·1	−·0025
		37	194·9	47·1		50·0		−·0030	+·0005	− 0·1	+ 4·1	−·0025
		42	195·0	47·3		50·1		−·0029	+·0006	+ 0·1	+ 4·1	−·0024
		47	195·1	47·3		50·1		−·0029	+·0006	+ 0·2	+ 4·1	−·0024
		52	195·1	46·9		50·2		−·0029	+·0006	+ 0·3	+ 4·1	−·0024
		57	195·0	46·2		50·2		−·0031	+·0006	+ 0·3	+ 4·3	−·0026
	05	02	194·9	45·9	63·4	50·2	63·4	−·0031	+·0006	+ 0·3	+ 4·3	−·0026
		07	194·5	45·9		50·2		−·0031	+·0006	0·0	+ 4·3	−·0026
		12	194·6	45·9		50·3		−·0030	+·0007	+ 0·1	+ 4·3	−·0025
		17	194·9	45·9		50·4		−·0030	+·0008	+ 0·3	+ 4·5	−·0025
		22	195·1	44·9		50·4		−·0032	+·0008	+ 0·4	+ 4·7	−·0027
		27	195·1	44·9		50·4		−·0032	+·0008	+ 0·4	+ 4·7	−·0027
		32	194·9	44·9		50·1		−·0032	+·0005	+ 0·3	+ 4·3	−·0027
		37	194·9	44·3		50·1		−·0033	+·0005	+ 0·4	+ 4·5	−·0028
		42	194·9	44·0		50·1		−·0033	+·0005	+ 0·4	+ 4·5	−·0028
		47	194·4	43·3		50·3		−·0034	+·0007	0·0	+ 4·8	−·0029
		52	194·1	42·3		50·3		−·0036	+·0007	− 0·2	+ 5·1	−·0030
		57	194·3	41·3		50·4		−·0038	+·0008	− 0·1	+ 5·4	−·0032
	06	02	193·9	40·4	63·7	50·4	63·4	−·0039	+·0008	− 0·4	+ 5·5	−·0033
		07	194·0	39·9		50·6		−·0040	+·0010	− 0·4	+ 5·9	−·0033
		12	195·0	39·9		50·7		−·0040	+·0011	+ 0·4	+ 6·0	−·0033
		17	195·2	39·3		50·7		−·0041	+·0011	+ 0·4	+ 6·1	−·0034
		22	194·9	39·0		50·4		−·0041	+·0008	+ 0 2	+ 5·8	−·0034
		27	194·1	38·1		50·4		−·0043	+·0008	+ 0·4	+ 6·0	−·0036
		32	194·1	38·4		50·5		−·0042	+·0009	− 0·4	+ 6·0	−·0035
		37	194·1	38·4		50·5		−·0042	+·0008	− 0·5	+ 5·9	−·0035
		42	194·9	37·1		50·6		−·0045	+·0009	+ 0·1	+ 6·4	−·0038
		47	195·0	37·1		50·6		−·0045	+·0009	+ 0·1	+ 6·4	−·0038
		52	195·1	37·1		50·6		−·0044	+·0009	+ 0·1	+ 6·2	−·0037
		57	195·1	38·8		50·6		−·0041	+·0009	+ 0·1	+ 5·9	−·0034
	07	02	195·8	40·1	63·3	50·6	63·3	−·0038	+·0009	+ 0·6	+ 5·5	−·0032
		07	195·7	40·0		50·5		−·0038	+·0008	+ 0·5	+ 5·4	−·0032
		12	195·1	39·9		50·4		−·0038	+·0007	0·0	+ 5·3	−·0032
		17	194·9	39·0		50·4		−·0040	+·0007	− 0·1	+ 5·5	−·0034
		22	194·1	38·3		50·5		−·0041	+·0009	− 0·8	+ 5·9	−·0034
		27	194·0	37·9		50·5		−·0042	+·0009	− 0·8	+ 6·0	−·0035
		32	193·9	37·0		50·5		−·0044	+·0009	− 0·9	+ 6·2	−·0037
		37	192·5	36·8		50·2		−·0044	+·0006	− 2·0	+ 5·9	−·0037
		42	192·7	36·3		50·2		−·0045	+·0006	− 1·8	+ 6·0	−·0038
		47	192·8	36·1		50·2		−·0045	+·0006	− 1·8	+ 6·0	−·0038
		52	192·7	35·9		50·3		−·0046	+·0008	− 1·9	+ 6·4	−·0039
		57	192·6	35·9		50·5		−·0046	+·0010	− 2·0	+ 6·6	−·0038
	08	02	192·2	35·9	63·1	50·6	63·4	−·0046	+·0011	− 2·3	+ 6·7	−·0038
		07	192·7	35·9		50·6		−·0046	+·0011	− 2·0	+ 6·7	−·0038
		12	192·4	35·9		50·6		−·0046	+·0011	− 2·2	+ 6·7	−·0038
		17	192·5	35·9		50·6		−·0046	+·0011	− 2·2	+ 6·7	−·0038
		22	192·9	35·9		50·6		−·0046	+·0011	− 1·9	+ 6·7	−·0038
		27	192·9	36·3		50·6		−·0045	+·0011	− 1·9	+ 6·6	−·0037
		32	192·9	36·4		50·6		−·0045	+·0011	− 2·0	+ 6·6	−·0037
		37	192·9	37·9		50·6		−·0042	+·0012	− 2·0	+ 6·4	−·0035
		42	193·0	39·6		50·6		−·0038	+·0012	− 1·9	+ 5·9	−·0031
		47	193 4	41·6		50·6		−·0034	+·0012	− 1·6	+ 5·4	−·0028
		52	193·4	42·9		50·6		−·0031	+·0012	− 1·7	+ 5·0	−·0025
		57	193·2	43·9		50·6		−·0029	+·0012	− 1·8	+ 4·8	−·0025

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OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
16 09 02	193·2	45·1	62·9	50·6	63·3	−·0027	+·0012	− 1·8	+ 4·6	−·0022
07	194·0	45·7		50·7		−·0025	+·0013	− 1·3	+ 4·5	−·0020
12	194·3	46·1		50·7		−·0025	+·0013	− 1·1	+ 4·5	−·0020
17	194·5	46·3		50·7		−·0024	+·0013	− 0·9	+ 4·3	−·0019
22	194·1	46·7		50·6		−·0023	+·0012	− 1·2	+ 4·1	−·0018
27	194·1	46·7		50·6		−·0023	+·0012	− 1·2	+ 4·1	−·0018
32	193·9	46·4		50·6		−·0024	+·0012	− 1·3	+ 4·2	−·0019
37	193·7	46·7		50·6		−·0023	+·0013	− 1·5	+ 4·2	−·0018
42	193·9	46·7		50·6		−·0023	+·0013	− 1·4	+ 4·2	−·0018
47	194·1	46·2		50·5		−·0024	+·0012	− 1·3	+ 4·2	−·0019
52	194·0	45·9		50·5		−·0025	+·0012	− 1·3	+ 4·3	−·0020
57	194·1	46·2		50·5		−·0024	+·0012	− 1·3	+ 4·2	−·0019
10 02	194·2	46·1	62·8	50·5	63·1	−·0024	+·0012	− 1·2	+ 4·2	−·0019
07	194·2	46·2		50·5		−·0024	+·0012	− 1·2	+ 4·2	−·0019
12	194·7	47·0		50·5		−·0023	+·0012	− 0·8	+ 4·1	−·0018
17	195·0	47·4		50·5		−·0022	+·0012	− 0·6	+ 4·0	−·0017
22	195·7	48·4		50·5		−·0020	+·0013	− 0·2	+ 3·9	−·0016
27	195·4	48·8		50·6		−·0019	+·0014	− 0·4	+ 3·9	−·0015
32	195·5	49·4		50·6		−·0018	+·0014	− 0·4	+ 3·8	−·0014
37	195·5	49·8		50·6		−·0018	+·0014	− 0·4	+ 3·8	−·0014
42	195·2	49·9		50·6		−·0017	+·0014	− 0·6	+ 3·6	−·0013
47	194·9	50·0		50·6		−·0017	+·0014	− 0·8	+ 3·6	−·0013
52	195·0	50·2		50·6		−·0017	+·0014	− 0·8	+ 3·6	−·0013
57	194·8	49·2		50·6		−·0020	+·0014	− 0·9	+ 4·0	−·0015
11 02	194·6	48·8	62·6	50·6	62·8	−·0020	+·0014	− 1·1	+ 4·0	−·0015
22 03 02	196·3	38·9	63·3	50·3	62·9	−·0051	+·0012	− 0·5	+ 7·4	−·0043
04 02	193·8	40·0	63·8	50·5	63·4	−·0045	+·0011	− 1·4	+ 6·6	−·0037
05 02	194·4	42·5	64·0	50·9	63·5	−·0036	+·0013	− 0·1	+ 5·8	−·0029
06 02	193·0	47·3	64·1	50·9	63·8	−·0024	+·0013	− 1·0	+ 4·3	−·0019
07 02	191·8	40·6	64·0	50·6	63·8	−·0034	+·0009	− 2·2	+ 5·0	−·0028
07	191·4	40·2		50·6		−·0035	+·0009	− 2·5	+ 5·2	−·0029
12	191·4	40·0		50·6		−·0036	+·0009	− 2·6	+ 5·3	−·0030
17	191·2	39·9		50·6		−·0036	+·0009	− 2·7	+ 5·3	−·0030
22	191·3	39·4		50·3		−·0037	+·0007	− 2·7	+ 5·2	−·0031
27	191·6	38·4		50·3		−·0039	+·0007	− 2·5	+ 5·4	−·0033
32	192·0	38·0		49·9		−·0040	+·0004	− 2·2	+ 5·2	−·0034
37	192·3	37·9		49·9		−·0040	+·0004	− 2·1	+ 5·2	−·0034
42	192·4	38·4		49·9		−·0039	+·0004	− 2·0	+ 5·0	−·0033
47	192·7	39·0		50·0		−·0038	+·0005	− 1·9	+ 5·0	−·0032
52	193·0	39·3		50·0		−·0037	+·0005	− 1·7	+ 4·9	−·0031
57	193·4	39·1		50·0		−·0038	+·0005	− 1·5	+ 5·0	−·0032
08 02	193·7	38·8	63·6	49·9	63·5	−·0038	+·0005	− 1·3	+ 5·0	−·0032
07	193·8	38·4		49·9		−·0039	+·0005	− 1·2	+ 5·2	−·0033
12	193·7	38·0		49·9		−·0040	+·0005	− 1·3	+ 5·3	−·0034
17	193·8	37·3		49·9		−·0041	+·0005	− 1·3	+ 5·4	−·0035
22	194·7	37·5		50·1		−·0041	+·0006	− 0·6	+ 5·5	−·0035
27	195·1	39·1		50·3		−·0038	+·0008	− 0·4	+ 5·4	−·0032
32	195·7	41·8		50·5		−·0032	+·0010	0·0	+ 4·9	−·0026
37	196·2	42·8		50·5		−·0030	+·0011	+ 0·4	+ 4·8	−·0025
42	196·2	42·4		50·4		−·0031	+·0010	+ 0·4	+ 4·8	−·0026
47	195·7	42·1		50·2		−·0031	+·0008	0·0	+ 4·6	−·0026
52	195·1	42·4		50·2		−·0031	+·0008	− 0·5	+ 4·6	−·0026
57	194·6	42·7		50·2		−·0030	+·0008	− 0·8	+ 4·5	−·0025
09 02	194·8	43·2	63·5	50·2	63·4	−·0029	+·0008	− 0·7	+ 4·3	−·0024
07	194·7	43·6		50·2		−·0028	+·0008	− 0·8	+ 4·2	−·0023
12	194·7	44·0		50·2		−·0028	+·0008	− 0·8	+ 4·2	−·0023
17	194·8	44·4		50·2		−·0027	+·0008	− 0·7	+ 4·1	−·0022
22	194·9	44·9		50·2		−·0025	+·0008	− 0·6	+ 3·9	−·0021
27	194·9	45·1		50·2		−·0025	+·0008	− 0·6	+ 3·9	−·0021
32	194·9	45·1		50·2		−·0025	+·0008	− 0·6	+ 3·9	−·0021
37	195·0	45·3		50·5		−·0025	+·0012	− 0·6	+ 4·3	−·0020

1844.
St. Helena.

November 22.

OBSERVATIONS OF THE MAGNETOMETERS. The Declination was observed 2m. before, and the V. F. 1m. after the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
22 09 42	194·9	46·1		50·4		−·0023	+·0011	− 0·7	+ 4·0	−·0018
47	194·8	46·9		50·4		−·0022	+·0011	− 0·8	+ 3·9	−·0018
52	194·8	47·8		50·4		−·0020	+·0011	− 0·8	+ 3·6	−·0016
57	195·0	47·9		50 4		−·0020	+·0011	− 0·6	+ 3·6	−·0016
10 02	194·9	47·7	63·2	50·4	63·4	−·0020	+·0011	− 0·7	+ 3·6	−·0016
07	194·5	47·0		50·4		−·0021	+·0011	− 1·0	+ 3·8	−·0017
12	194·3	47·1		50·4		−·0021	+·0011	− 1·1	+ 3·8	−·0017
17	194·4	47·1		50·4		−·0021	+·0011	− 1·1	+ 3·8	−·0017
22	194·4	47·1		50·4		−·0022	+·0012	− 1·1	+ 4·0	−·0017
27	194·8	47·9		50·4		−·0020	+·0012	− 0·8	+ 3·8	−·0016
32	194·9	48·4		50·4		−·0019	+·0012	− 0·8	+ 3·6	−·0015
37	195·0	48·9		50·4		−·0018	+·0012	− 0·7	+ 3·5	−·0014
42	194·9	49·4		50·4		−·0017	+·0012	− 0·8	+ 3·4	−·0013
47	194·9	50·9		50·4		−·0014	+·0012	− 0·8	+ 3·1	−·0010
52	194·9	52·1		50·4		−·0012	+·0013	− 0·8	+ 2·9	−·0009
57	194·9	52·9		50·4		−·0010	+·0013	− 0·8	+ 2·7	−·0007
11 02	194·9	53·9	63·1	50·4	63·2	−·0008	+·0013	− 0·8	+ 2·5	−·0005
07	195·1	54·1		50·4		−·0008	+·0013	− 0·7	+ 2·5	−·0005
12	195·4	55·4		50·4		−·0006	+·0013	− 0·5	+ 2·2	−·0004
17	195·9	56·4		50·4		−·0003	+·0013	− 0·1	+ 1·9	−·0001
22	195·9	56·9		50·4		−·0002	+·0013	− 0·1	+ 1·8	·0000
27	195·9	57·4		50·4		−·0002	+·0013	− 0·1	+ 1·8	·0000
32	195·9	57·9		50·3		−·0001	+·0012	− 0·1	+ 1·5	+·0001
37	195·6	57·9		50·3		−·0001	+·0013	− 0·3	+ 1·7	+·0001
42	195·4	58·2		50·3		·0000	+·0013	− 0·4	+ 1·5	+·0002
47	195·2	58·2		50·3		·0000	+·0013	− 0·6	+ 1·5	+·0002
52	195·2	57·1		50·3		−·0003	+·0013	− 0·6	+ 1·9	+·0001
57	195·1	56·8		50·3		−·0004	+·0013	− 0·6	+ 2·0	−·0002
12 02	195·1	56·4	62·9	50·3	63·0	−·0004	+·0013	− 0·6	+ 2·0	−·0002
07	195·9	55·9		50·3		−·0006	+·0013	− 0·1	+ 2·2	−·0004
12	195·9	55·1		50·2		−·0007	+·0012	− 0·1	+ 2·2	−·0005
17	195·8	55·1		50·2		−·0007	+·0012	− 0·1	+ 2·2	−·0005
22	195·8	54·9		50·2		−·0008	+·0012	− 0·1	+ 2·4	−·0005
27	195·6	54·8		50·2		−·0008	+·0012	− 0·2	+ 2·4	−·0005
32	195·4	54·1		50·2		−·0010	+·0012	− 0·4	+ 2·6	−·0007
37	194·9	54·0		50·2		−·0010	+·0012	− 0·7	+ 2·6	−·0007
42	194·4	52·4		49·9		−·0013	+·0009	− 1·1	+ 2·6	−·0010
47	194·2	51·9		49·9		−·0014	+·0009	− 1·2	+ 2·7	−·0011
52	193·9	51·7		49·9		−·0015	+·0009	− 1·3	+ 2·8	−·0012
13 02	193·4	51·1	62·7	49·9	62·9	−·0016	+·0009	− 1·7	+ 2·9	−·0013
07	193·3	51·1		50·3		−·0016	+·0013	− 1·8	+ 3·4	−·0012
12	193·2	51·7		50·2		−·0015	+·0012	− 1·8	+ 3·2	−·0011
17	193·1	52·1		50·2		−·0014	+·0012	− 1·8	+ 3·1	−·0010
22	192·9	53·1		50·2		−·0012	+·0012	− 2·0	+ 2·8	−·0009
27	192·8	54·1		50·2		−·0010	+·0012	− 2·0	+ 2·6	−·0007
32	192·7	54·4		50·2		−·0010	+·0012	− 2·0	+ 2·6	−·0007
37	192·7	55·0		50·0		−·0008	+·0011	− 2·0	+ 2·2	−·0006
42	192·7	55·1		50·0		−·0008	+·0011	− 2·0	+ 2·2	−·0006
47	192·4	55·1		50·0		−·0008	+·0011	− 2·2	+ 2·2	−·0006
52	192·2	55·1		50·0		−·0008	+·0011	− 2·3	+ 2·2	−·0006
57	192·2	54·9		50·0		−·0009	+·0011	− 2·2	+ 2·4	−·0006
14 02	192·0	54·7	62·4	50·0	62·8	−·0010	+·0011	− 2·4	+ 2·5	−·0007
07	192·0	54·8		49·6		−·0010	+·0007	− 2·4	+ 2·0	−·0008
12	191·9	54·7		49·6		−·0010	+·0007	− 2·4	+ 2·0	−·0008
17	192·1	54·7		49·6		−·0010	+·0007	− 2·2	+ 2·0	−·0008
22	192·1	54·1		49·6		−·0011	+·0007	− 2·2	+ 2·1	−·0009
27	192·1	53·7		49·6		−·0013	+·0007	− 2·2	+ 2·4	−·0010
32	192·1	53·3		49·6		−·0013	+·0007	− 2·2	+ 2·4	−·0010
37	192·1	53·3		49·9		−·0014	+·0011	− 2·2	+ 2·9	−·0011
42	192·1	53·7		49·9		−·0013	+·0011	− 2·2	+ 2·8	−·0010
47	192·1	54·0		50·0		−·0013	+·0012	− 2·2	+ 2·9	−·0010
52	192·1	54·0		49·9		−·0013	+·0011	− 2·1	+ 2·8	−·0010
57	192·1	54·3		49·9		−·0012	+·0011	− 2·1	+ 2·7	−·0009

1844. St. Helena.

November 22.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
						$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta \psi$	$\Delta \theta$	$\frac{\Delta \phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
22 15 02	192·1	55·0	62·0	49·9	62·6	−·0011	+·0011	− 2·1	+ 2·6	−·0008
07	192·0	54·8		50·0		−·0011	+·0012	− 2·2	+ 2·7	−·0008
12	191·9	54·2		50·0		−·0013	+·0012	− 2·2	+ 2·9	−·0010
17	191·9	54·1		50·0		−·0013	+·0012	− 2·2	+ 2·9	−·0010
22	191·7	54·1		50·0		−·0013	+·0012	− 2·3	+ 2·9	−·0010
27	191·9	54·2		50·0		−·0013	+·0012	− 2·2	+ 2·9	−·0010
32	191·9	54·4		50·0		−·0012	+·0012	− 2·2	+ 2·8	−·0009
37	191·9	54·4		50·0		−·0012	+·0013	− 2·2	+ 2·9	−·0009
42	191·9	54·6		50·0		−·0012	+·0013	− 2·2	+ 2·9	−·0009
47	191·8	54·6		49·8		−·0012	+·0011	− 2·2	+ 2·7	−·0009
52	191·9	54·7		49·8		−·0012	+·0011	− 2·1	+ 2·7	−·0009
57	191·9	54·9		49·8		−·0012	+·0011	− 2·1	+ 2·7	−·0009
16 02	191·9	54·9	62·0	49·7	62·5	−·0012	+·0010	− 2·1	+ 2·6	−·0009
32	191·9	55·0		49·7		−·0011	+·0010	− 2·1	+ 2·5	−·0008
17 02	191·4	55·0	61·9	49·6	62·2	−·0011	+·0009	− 2·2	+ 2·4	−·0008
18 02	189·5	55·4	61·7	49·5	61·9	−·0012	+·0008	− 3·2	+ 2·4	−·0009

1844. Cape of Good Hope.

November 22.

For Mean Monthly Readings, *see* page 412.

CAPE OF GOOD HOPE, 1844. NOVEMBER 22—23.

The V. F. Magnet was engaged in making experiments for Temperature Coefficient.

22 04 00	50·5	—	—	—	—	—	—	− 0·8	—	—
05 00	51·7	—	—	—	—	—	—	+ 0·4	—	—
06 00	50·9	—	—	—	—	—	—	− 0·2	—	—
07 00	44·1	—	—	—	—	—	—	− 5·3	—	—
02	44·0	—		—		—	—	− 5·3	—	—
04	43·7	—		—		—	—	− 5·6	—	—
06	43·7	—		—		—	—	− 5·6	—	—
08	43·7	—		—		—	—	− 5·6	—	—
10	43·8	—		—		—	—	− 5·5	—	—
12	43·4	—		—		—	—	− 5·8	—	—
14	43·2	—		—		—	—	− 5·9	—	—
16	43·1	—		—		—	—	− 6·0	—	—
18	43·0	—		—		—	—	− 6·1	—	—
20	43·0	—		—		—	—	− 6·1	—	—
22	43·0	—		—		—	—	− 6·1	—	—
24	43·0	—		—		—	—	− 6·1	—	—
26	43·9	—		—		—	—	− 5·4	—	—
28	43·9	—		—		—	—	− 5·4	—	—
30	44·0	—		—		—	—	− 5·3	—	—
32	43·8	—		—		—	—	− 5·6	—	—
34	43·0	—		—		—	—	− 6·2	—	—
36	42·2	—		—		—	—	− 6·8	—	—
38	42·0	—		—		—	—	− 6·9	—	—
40	41·2	—		—		—	—	− 7·5	—	—
42	41·9	—		—		—	—	− 7·0	—	—
44	42·0	—		—		—	—	− 6·9	—	—
46	42·7	—		—		—	—	− 6·4	—	—
48	43·0	—		—		—	—	− 6·2	—	—
50	43·0	—		—		—	—	− 6·2	—	—
52	43·7	—		—		—	—	− 5·6	—	—
54	44·0	—		—		—	—	− 5·4	—	—
56	44·1	—		—		—	—	− 5·3	—	—
58	44·9	—		—		—	—	− 4·7	—	—
08 00	45·0	—	—	—	—	—	—	− 4·7	—	—
02	45·2	—		—		—	—	− 4·5	—	—
04	45·2	—		—		—	—	− 4·5	—	—
06	45·2	—		—		—	—	− 4·5	—	—
08	45·2	—		—		—	—	− 4·5	—	—
10	45·7	—		—		—	—	− 4·1	—	—
12	45·3	—		—		—	—	− 4·4	—	—
14	46·0	—		—		—	—	− 3·9	—	—
16	46·2	—		—		—	—	− 3·8	—	—

1844.
Cape of Good Hope.
November 22—23.

OBSERVATIONS OF THE MAGNETOMETERS.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta \psi$	$\Delta \theta$	$\frac{\Delta \phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
22 08 18	46·9	—		—		—	—	− 3·2	—	—
20	47·0	—		—		—	—	− 3·2	—	—
22	47·0	—		—		—	—	− 3·2	—	—
24	47·9	—		—		—	—	− 2·5	—	—
26	48·0	—		—		—	—	− 2·4	—	—
28	49·1	—		—		—	—	− 1·6	—	—
30	51·0	—		—		—	—	− 0·2	—	—
32	51·9	—		—		—	—	+ 0·5	—	—
34	52·2	—		—		—	—	+ 0·7	—	—
36	52·9	—		—		—	—	+ 1·2	—	—
38	52·5	—		—		—	—	+ 0·9	—	—
40	52·0	—		—		—	—	+ 0·5	—	—
42	51·0	—		—		—	—	− 0·2	—	—
44	50·1	—		—		—	—	− 0·9	—	—
46	50·0	—		—		—	—	− 1·0	—	—
48	49·8	—		—		—	—	− 1·1	—	—
50	49·1	—		—		—	—	− 1·7	—	—
52	49·0	—		—		—	—	− 1·7	—	—
54	49·0	—		—		—	—	− 1·7	—	—
56	48·0	—		—		—	—	− 2·5	—	—
58	49·0	—		—		—	—	− 1·7	—	—
09 00	49·0	—	—	—	—	—	—	− 1·7	—	—
02	49·0	—		—		—	—	− 1·7	—	—
04	49·0	—		—		—	—	− 1·7	—	—
06	49·0	—		—		—	—	− 1·7	—	—
08	49·0	—		—		—	—	− 1·7	—	—
10	49·0	—		—		—	—	− 1·7	—	—
12	49·0	—		—		—	—	− 1·7	—	—
10 00	50·2	—	—	—	—	—	—	− 1·0	—	—
11 00	50·2	—	—	—	—	—	—	− 1·0	—	—
12 00	50·2	—	—	—	—	—	—	− 1·0	—	—
13 00	48·0	—	—	—	—	—	—	− 2·3	—	—
14 00	46·1	—	—	—	—	—	—	− 3·5	—	—
15 00	47·0	—	—	—	—	—	—	− 2·7	—	—
16 00	46·0	—	—	—	—	—	—	− 3·1	—	—
17 00	44·0	—	—	—	—	—	—	− 3·8	—	—
18 00	43·0	—	—	—	—	—	—	− 3·4	—	—
19 00	44·4	—	—	—	—	—	—	− 1·0	—	—
20 00	42·5	—	—	—	—	—	—	− 1·6	—	—
21 00	42·5	—	—	—	—	—	—	− 2·0	—	—
22 00	45·2	—	—	—	—	—	—	− 1·5	—	—
23 00	47·2	—	—	—	—	—	—	− 1·9	—	—
23 00 00	48·6	—	—	—	—	—	—	− 2·3	—	—
15	49·0	—		—		—	—	− 2·3	—	—
30	48·9	—		—		—	—	− 2·6	—	—
45	48·9	—		—		—	—	− 2·9	—	—
01 00	48·5	—	—	—	—	—	—	− 3·5	—	—
15	49·1	—		—		—	—	− 3·0	—	—
30	48·9	—		—		—	—	− 3·2	—	—
45	49·2	—		—		—	—	− 2·9	—	—
02 00	49·3	—	—	—	—	—	—	− 2·9	—	—
15	49·9	—		—		—	—	− 2·3	—	—
30	49·8	—		—		—	—	− 2·3	—	—
45	49·7	—		—		—	—	− 2·3	—	—
03 00	49·0	—	—	—	—	—	—	− 2·7	—	—
15	49·0	—		—		—	—	− 2·5	—	—
30	48·5	—		—		—	—	− 2·7	—	—
45	48·5	—		—		—	—	− 2·5	—	—
04 00	48·5	—	—	—	—	—	—	− 2·3	—	—
15	48·3	—		—		—	—	− 2·4	—	—
30	48·9	—		—		—	—	− 1·9	—	—
45	49·0	—		—		—	—	− 1·7	—	—

1844. Cape of Good Hope. — November 23.

OBSERVATIONS OF THE MAGNETOMETERS.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta \psi$	$\Delta \theta$	$\frac{\Delta \phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
23 05 00	49·0	—	—	—	—	—	—	− 1·7	—	—
15	49·0	—		—		—	—	− 1·7	—	—
30	48·9	—		—		—	—	− 1·7	—	—
45	49·0	—		—		—	—	− 1·7	—	—
06 00	49·1	—	—	—	—	—	—	− 1·6	—	—
15	49·4	—		—		—	—	− 1·4	—	—
30	49·0	—		—		—	—	− 1·6	—	—
45	48·0	—		—		—	—	− 2·3	—	—
07 00	47·5	—	—	—	—	—	—	− 2·7	—	—
08 00	50·3	—	—	—	—	—	—	− 0·7	—	—

1844. Van Diemen Island. — November 22. — For Mean Monthly Readings, *see* page 412.

VAN DIEMEN ISLAND, 1844. NOVEMBER 22.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

22 09 02	68·4	99·8	55·3	105·0	53·7	−·0015	−·0010	− 2·2	+ 0·5	−·0011
10 02	61·4	96·5	55·2	112·2	53·7	−·0022	−·0006	− 6·1	+ 1·7	−·0008
07	62·9	96·8		112·8		−·0021	−·0006	− 5·0	+ 1·6	−·0008
12	64·5	97·4		113·7		−·0020	−·0005	− 3·8	+ 1·6	−·0007
17	63·9	96·1		113·5		−·0022	−·0005	− 4·2	+ 1·8	−·0007
22	64·0	95·6		114·3		−·0023	−·0005	− 4·0	+ 1·9	−·0007
27	64·0	95·0		114·9		−·0024	−·0004	− 4·0	+ 2·2	−·0006
32	64·0	—		—		—	—	− 3·9	—	—
11 02	63·8	89·6	55·3	122·6	54·1	−·0035	·0000	− 3·4	+ 3·8	−·0004
07	65·1	87·7		124·7		−·0039	+·0001	− 2·5	+ 4·3	−·0003
12	65·4	88·5		127·5		−·0037	+·0002	− 2·3	+ 4·2	−·0002
17	—	89·3		126·9		−·0035	+·0002	—	+ 4·0	−·0002
22	66·5	88·7		126·4		−·0036	+·0002	− 1·5	+ 4·1	−·0002
27	66·6	—		—		—	—	− 1·5	—	—
12 02	72·8	90·9	55·2	120·2	54·2	−·0028	+·0002	+ 2·8	+ 3·2	−·0001
13 02	78·0	93·5	55·5	122·5	54·3	−·0020	+·0002	+ 4·7	+ 2·4	·0000

1844. Cape of Good Hope. — November 27—28. — For Mean Monthly Readings, *see* page 412.

CAPE OF GOOD HOPE, 1844. NOVEMBER 27—28.

The H. F. and V. F. were observed *immediately* after the times specified.

27 18 00	49·0	57·2	69·8	46·5	69·9	+·0015	+·0045	+ 1·2	+ 4·9	+ 0034
19 00	46·2	57·3	69·7	48·1	69·8	+·0014	+·0047	+ 0·5	+ 5·4	+·0035
20 00	46·0	58·2	69·7	46·4	69·8	+·0017	+·0045	+ 1·1	+ 4·6	+·0035
30	45·6	60·1		43·3		+·0022	+·0043	+ 0·5	+ 3·5	+·0036
45	45·2	60·3		43·3		+·0023	+·0044	+ 0·1	+ 3·5	+·0037
21 00	45·0	59·5	69·9	43·6	69·9	+·0022	+·0045	− 0·2	+ 3·8	+·0037
15	44·9	59·7		43·6		+·0023	+·0046	− 0·6	+ 3·8	+·0038
30	44·8	58·2		43·9		+·0020	+·0047	− 1·1	+ 4·4	+·0037
45	45·5	58·4		43·4		+·0021	+·0047	− 0·9	+ 4·3	+·0038
22 00	46·2	58·0	70·1	42·0	70·3	+·0021	+·0046	− 0·8	+ 4·1	+·0037
15	46·4	56·8		42·5		+·0019	+·0047	− 1·1	+ 4·6	+·0037
30	48·0	56·8		40·8		+·0019	+·0045	− 0·4	+ 4·3	+·0036
45	47·7	55·4		41·1		+·0017	+·0047	− 1·1	+ 4·9	+·0036
23 00	48·0	53·8	70·5	42·1	70·4	+·0013	+·0048	− 1·3	+ 5·8	+·0035
30	50·4	57·4		39·1		+·0017	+·0043	− 0·2	+ 4·3	+·0034
28 00 00	53·0	55·0	70·8	36·6	70·6	+·0019	+·0040	+ 1·1	+ 3·5	+·0033
01 00	55·0	52·9	71·1	38·7	70·8	+·0013	+·0043	+ 1·4	+ 4·9	+·0032
02 00	56·1	48·0	71·5	45·0	71·1	+·0002	+·0050	+ 2·3	+ 7·9	+·0033
03 00	54·2	46·4	71·7	48·9	71·3	−·0001	+·0053	+ 1·2	+ 8·9	+·0034
15	53·8	47·0		48·9		·0000	+·0053	+ 1·1	+ 8·7	+·0034
30	53·7	47 1		48·9		+·0001	+·0053	+ 1·2	+ 8·6	+·0034
45	53·7	47·4		48·9		+·0002	+·0052	+ 1·4	+ 8·2	+·0034

1844.
Cape of Good Hope.

November 28.

OBSERVATIONS OF THE MAGNETOMETERS.

The H. F. and V. F. were observed *immediately* after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
						$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
28 04 00	53·2	47·9	71·7	48·3	71·3	+·0003	+·0051	+ 1·2	+ 7·9	+·0034
15	53·2	48·2		48·0		+·0004	+·0050	+ 1·3	+ 7·6	+·0034
30	53·6	48·3		47·5		+·0005	+·0049	+ 1·7	+ 7·3	+·0033
45	53·5	48·2		47·3		+·0006	+·0049	+ 1·7	+ 7·1	+·0034
05 00	53·8	47·3	71·7	47·3	71·3	+·0004	+·0048	+ 2·0	+ 7·3	+·0032
15	53·0	48·0		47·4		+·0006	+·0048	+ 1·4	+ 6·9	+·0033
30	53·0	48·4		46·5		+·0006	+·0047	+ 1·4	+ 6·8	+·0032
45	53·4	48·4		46·0		+·0006	+·0047	+ 1·7	+ 6·8	+·0032
06 00	54·0	49·2	71·4	44·7	71·1	+·0008	+·0045	+ 2·1	+ 6·1	+·0032
07 00	53·6	49·1	71·1	46·0	70·5	+·0008	+·0047	+ 1·9	+ 6·4	+·0033

1844.
Cape of Good Hope.

December 1.

CAPE OF GOOD HOPE, 1844. DECEMBER 1—4, and 14.

MEAN MONTHLY READINGS OF THE MAGNETOMETERS.

Mean Göttingen Time.	Declination.	H. F. at 67°·1.	V. F. at 67°·0.	Mean Göttingen Time.	Declination.	H. F. at 67°·1.	V. F. at 67°·0.
Hours.	Sc. Div.	Sc. Div.	Sc. Div.	Hours.	Sc. Div.	Sc. Div.	Sc. Div.
00	42·4	61·9	37·0	12	51·5	60·0	42·5
01	53·1	61·7	38·6	13	51·5	60·2	42·1
02	52·6	61·3	40·9	14	51·3	60·4	42·6
03	51·5	61·4	42·2	15	50·8	60·4	43·0
04	50·7	61·4	43·0	16	50·1	60·6	43·7
05	50·6	61·1	42·7	17	48·8	61·3	44·5
06	50·8	60·6	42·6	18	46·8	62·4	45·1
07	51·3	59·9	42·6	19	45·4	63·0	44·7
08	51·4	59·8	42·5	20	45·0	63·4	43·4
09	51·6	60·0	42·2	21	45·8	63·1	40·9
10	51·9	60·2	42·2	22	48·2	62·2	38·2
11	51·9	60·3	42·3	23	50·8	62·2	36·8

Coefficients (A), Approximate Absolute Values (B).

(A) Declin. $a = 0'·751$

H. F. $k = ·00022$, $q = ·00022$

V. F. $k = ·00014$, $q = ·00005$

(B) Approx. $\psi = 29° 05'$, $X = 4·46$, $Y = 6·00$, $\theta = -53° 20'$, $\phi = 7·50$

OBSERVATIONS OF THE MAGNETOMETERS.

The H. F. and V. F. were observed *immediately* after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
						$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
1 15 00	52·2	59·7	62·7	49·0	62·8	−·0011	+·0006	+ 1·1	+ 2·8	·0000
16 00	53·0	60·8	62·6	48·9	62·6	−·0010	+·0005	+ 2·2	+ 2·5	·0000
17 00	52·7	60·9	62·4	51·5	62·5	−·0011	+·0008	+ 2·9	+ 3·1	+·0001
30	51·0	61·8		50·9		−·0011	+·0006	+ 2·4	+ 2·8	·0000
45	50·9	61·8		51·2		−·0011	+·0006	+ 2·7	+ 2·8	·0000
18 00	50·1	62·3	62·2	51·5	62·5	−·0011	+·0007	+ 2·5	+ 3·0	+·0001
15	50·0	62·3		51·6		−·0011	+·0007	+ 2·7	+ 3·0	+·0001
20	49·9	62·5		51·6		−·0011	+·0007	+ 2·7	+ 3·0	+·0001
25	49·5	62·7		51·7		−·0011	+·0007	+ 2·5	+ 3·0	+·0001
30	49·3	62·9		50·6		−·0010	+·0006	+ 2·4	+ 2·6	·0000
35	49·2	63·0		50·8		−·0011	+·0006	+ 2·4	+ 2·8	·0000
40	49·0	63·0		50·6		−·0011	+·0006	+ 2·3	+ 2·8	·0000
45	49·0	63·0		50·6		−·0011	+·0006	+ 2·5	+ 2·8	·0000
50	49·0	62·8		50·3		−·0011	+·0006	+ 2·6	+ 2·8	·0000
55	48·8	62·8		50·3		−·0011	+·0006	+ 2·5	+ 2·8	·0000
19 00	48·2	63·0	62·1	50·3	62·5	−·0011	+·0006	+ 2·1	+ 2·8	·0000
05	48·2	63·0		50·5		−·0011	+·0006	+ 2·1	+ 2·8	·0000
10	48·2	62·9		50·4		−·0011	+·0006	+ 2·2	+ 2·8	·0000

1844.
Cape of Good Hope.

December 1—2.

OBSERVATIONS OF THE MAGNETOMETERS. The H. F. and V. F. were observed *immediately* after the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
1 19 15	48·2	62·8		50·4		−·0011	+·0006	+ 2·2	+ 2·8	·0000
20	48·2	62·7		50·4		−·0012	+·0006	+ 2·2	+ 3·0	·0000
25	48·2	62·6		50·4		−·0012	+·0006	+ 2·3	+ 3·0	·0000
30	48·2	62·2		50·4		−·0013	+·0007	+ 2·3	+ 3·3	·0000
35	48·0	62·7		50·4		−·0012	+·0007	+ 2·1	+ 3·1	·0000
40	47·8	62·6		50·4		−·0012	+·0007	+ 2·0	+ 3·1	·0000
45	47·7	62·1		50·4		−·0013	+·0007	+ 2·0	+ 3·3	·0000
50	47·7	62·0		50·4		−·0013	+·0007	+ 2·0	+ 3·3	·0000
55	47·2	61·9		50·4		−·0014	+·0007	+ 1·7	+ 3·5	·0000
20 00	47·0	61·9	62·4	50·6	62·7	−·0014	+·0008	+ 1·5	+ 3·6	·0000
05	47·0	61·3		50·4		−·0015	+·0008	+ 1·4	+ 3·8	·0000
10	46·8	61·1		50·5		−·0015	+·0008	+ 1·3	+ 3·8	·0000
15	46·8	60·9		50·5		−·0015	+·0008	+ 1·2	+ 4·0	·0000
20	46·6	60·9		50·5		−·0015	+·0009	+ 1·0	+ 4·0	·0000
25	46·2	60·9		50·5		−·0015	+·0009	+ 0·7	+ 4·0	·0000
30	46·1	60·9		50·3		−·0015	+·0009	+ 0·5	+ 4·0	·0000
35	45·9	60·8		50·3		−·0015	+·0010	+ 0·3	+ 4·1	+·0001
40	46·0	60·9		49·7		−·0015	+·0009	+ 0·4	+ 4·0	·0000
45	46·0	60·9		49·7		−·0015	+·0010	+ 0·3	+ 4·1	+·0001
50	46·1	60·8		49·4		−·0015	+·0009	+ 0·3	+ 4·0	·0000
55	46·0	60·5		49·4		−·0015	+·0010	+ 0·2	+ 4·1	+·0001
21 00	46·0	60·3	62·7	49·1	63·0	−·0016	+·0010	+ 0·2	+ 4·3	+·0001
05	46·2	60·2		49·5		−·0016	+·0010	+ 0·2	+ 4·3	+·0001
10	46·5	60·2		48·9		−·0015	+·0010	+ 0·2	+ 4·1	+·0001
15	46·8	60·0		48·9		−·0016	+·0010	+ 0·3	+ 4·3	+·0001
20	47·0	60·1		48·8		−·0015	+·0010	+ 0·3	+ 4·1	+·0001
25	47·2	60·3		48·2		−·0015	+·0010	+ 0·3	+ 4·1	+·0001
30	47·2	60·0		47·8		−·0015	+·0010	+ 0·2	+ 4·1	+·0001
35	47·4	59·8		47·8		−·0015	+·0010	+ 0·2	+ 4·1	+·0001
40	47·9	59·6		48·2		−·0015	+·0011	+ 0·4	+ 4·3	+·0002
45	47·9	59·6		47·9		−·0015	+·0011	+ 0·2	+ 4·3	+·0002
50	48·1	59·8		47·6		−·0014	+·0011	+ 0·2	+ 4·1	+·0002
55	48·2	59·8		47·1		−·0014	+·0010	+ 0·2	+ 4·0	+·0001
22 00	48·3	59·8	63·2	47·1	63·4	−·0014	+·0011	+ 0·1	+ 4·1	+·0002
05	48·3	59·7		46·8		−·0014	+·0010	− 0·1	+ 4·0	+·0001
10	48·7	59·7		46·5		−·0014	+·0010	+ 0·1	+ 4·0	+·0001
15	48·8	59·7		46·3		−·0014	+·0010	− 0·1	+ 4·0	+·0001
20	48·9	59·7		46·3		−·0014	+·0010	− 0·2	+ 4·0	+·0001
25	48·9	59·7		46·1		−·0014	+·0010	− 0·3	+ 4·0	+·0001
30	48·9	59·8		46·1		−·0013	+·0010	− 0·5	+ 3·8	+·0002
35	48·9	59·5		45·9		−·0014	+·0010	− 0·6	+ 4·0	+·0001
40	48·9	59·8		45·6		−·0013	+·0010	− 0·8	+ 3·8	+·0002
45	49·0	59·8		45·2		−·0013	+·0010	− 0·9	+ 3·8	+·0002
50	49·1	59·9		44·7		−·0013	+·0009	− 1·0	+ 3·6	+·0001
55	49·1	60·0		44·3		−·0013	+·0009	− 1·1	+ 3·6	+·0001
23 00	49·2	59·9	63·5	44·3	63·7	−·0013	+·0009	− 1·2	+ 3·6	+·0001
05	49·2	59·9		44·3		−·0013	+·0009	− 1·3	+ 3·6	+·0001
10	49·3	59·9		43·0		−·0013	+·0007	− 1·4	+ 3·3	·0000
15	49·8	60·1		43·5		−·0012	+·0008	− 1·1	+ 3·3	+·0001
20	49·9	60·0		43·3		−·0012	+·0007	− 1·1	+ 3·1	·0000
25	49·9	60·2		42·9		−·0012	+·0007	− 1·2	+ 3·1	·0000
30	50·2	60·7		42·0		−·0010	+·0006	− 1·1	+ 2·6	·0000
35	50·2	60·9		41·4		−·0010	+·0005	− 1·1	+ 2·5	·0000
40	50·7	60·8		41·0		−·0010	+·0004	− 0·9	+ 2·3	−·0001
45	50·9	60·4		40·7		−·0011	+·0004	− 0·8	+ 2·5	−·0001
50	51·0	60·5		40·7		−·0010	+·0004	− 0·8	+ 2·3	−·0001
55	51·1	60·2		40·5		−·0011	+·0003	− 0·9	+ 2·3	−·0002
2 00 00	51·0	59·9	64·0	40·5	63·9	−·0011	+·0003	− 1·1	+ 2·3	−·0002
05	51·0	59·8		40·8		−·0011	+·0004	− 1·1	+ 2·5	−·0001
10	51·0	59·1		41·2		−·0013	+·0004	− 1·1	+ 2·8	−·0002
15	51·1	59·1		41·2		−·0012	+·0004	− 1·1	+ 2·6	−·0002
20	51·2	59·3		41·2		−·0012	+·0004	− 1·1	+ 2·6	−·0002

1844.
Cape of Good Hope.

December 2.

OBSERVATIONS OF THE MAGNETOMETERS. The H. F. and V. F. were observed *immediately* after the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
2 00 25	51·8	59·3		40·9		−·0012	+·0003	− 0·7	+ 2·5	−·0002
30	51·5	59·3		40·9		−·0012	+·0003	− 0·9	+ 2·5	−·0002
35	51·7	59·4		40·8		−·0011	+·0003	− 0·8	+ 2·3	−·0002
40	51·8	59·4		40·7		−·0011	+·0002	− 0·8	+ 2·1	−·0003
45	51·9	59·3		40·7		−·0011	+·0002	− 0·8	+ 2·1	−·0003
50	51·9	59·3		40·7		−·0011	+·0002	− 0·8	+ 2·1	−·0003
55	52·2	59·4		40·4		−·0011	+·0001	− 0·6	+ 2·0	−·0003
01 00	52·7	59·7	64·6	40·2	64·4	−·0010	+·0001	− 0·3	+ 1·8	−·0003
05	52·9	59·5		39·6		−·0010	·0000	− 0·2	+ 1·7	−·0004
10	52·9	59·2		39·6		−·0011	·0000	− 0·1	+ 1·8	−·0004
15	52·8	59·2		39·6		−·0011	−·0001	− 0·2	+ 1·7	−·0005
20	52·9	59·2		39·6		−·0011	−·0001	0·0	+ 1·7	−·0005
25	53·0	59·3		39·8		−·0010	−·0001	+ 0·1	+ 1·5	−·0004
30	53·0	59·2		39·8		−·0010	−·0001	+ 0·2	+ 1·5	−·0004
35	53·0	59·4		39·8		−·0010	−·0001	+ 0·2	+ 1·5	−·0004
40	53·0	59·4		40·2		−·0010	−·0001	+ 0·2	+ 1·5	−·0004
45	53·0	59·3		40·2		−·0010	−·0001	+ 0·2	+ 1·5	−·0004
50	53·0	59·3		40·2		−·0010	−·0002	+ 0·2	+ 1·3	−·0005
55	53·0	59·3		40·6		−·0009	−·0001	+ 0·3	+ 1·3	−·0004
02 00	53·1	59·3	64·9	40·6	64·8	−·0009	−·0002	+ 0·4	+ 1·2	−·0004
15	53·1	59·3		41·1		−·0009	−·0001	+ 0·6	+ 1·3	−·0004
30	53·3	59·2		41·9		−·0009	− 0001	+ 1·0	+ 1·3	−·0004
45	53·6	59·4		42·4		−·0008	·0000	+ 1·4	+ 1·3	−·0003
03 00	53·0	59·5	65·4	43·5	65·1	−·0008	+·0001	+ 1·1	+ 1·5	−·0002
04 00	52·0	60·2	65·7	45·4	65·4	−·0006	+·0003	+ 1·0	+ 1·5	·0000
05 00	50·5	58·9	65·7	48·1	65·4	−·0008	+·0007	− 0·1	+ 2·5	+·0002
06 00	51·0	60·1	65·8	46·4	65·4	−·0004	+·0005	+ 0·2	+ 1·5	+·0002
07 00	53·0	59·1	65·5	45·9	65·2	−·0005	+·0004	+ 1·3	+ 1·5	+·0001
08 00	53·5	58·9	65·1	45·9	65·0	−·0006	+·0004	+ 1·6	+ 1·7	·0000
09 00	52·9	59·4	64·8	49·9	64·6	−·0006	+·0005	+ 1·0	+ 1·8	+·0001
10 00	53·0	60·2	64·6	46·2	64·5	−·0006	+·0004	+ 0·8	+ 1·7	·0000
11 00	52·5	60·4	64·4	46·5	64·4	−·0006	+·0005	+ 0·5	+ 1·8	+·0001
12 00	52·3	60·7	64·1	46·7	64·1	−·0005	+·0005	+ 0·6	+ 1·7	+·0001
13 00	52·2	60·8	63·8	47·3	63·9	−·0006	+·0006	+ 0·5	+ 2·0	+·0002
14 00	52·3	60·6	63·7	47·6	63·8	−·0007	+·0005	+ 0·8	+ 2·0	+·0001
15 00	51·2	60·7	63·5	49·1	63·6	−·0007	+·0007	+ 0·3	+ 2·3	+·0002
15	52·9	59·5		44·0		−·0008	+·0001	+ 1·2	+ 1·5	−·0002
16 00	50·5	60·3	63·1	48·3	63·3	−·0010	+·0005	+ 0·3	+ 2·5	·0000
17 00	49·5	61·6	62·9	50·0	63·3	−·0009	+·0006	+ 0·5	+ 2·5	+·0001
18 00	47·0	63·2	63·0	51·7	63·3	−·0007	+·0007	+ 0·2	+ 2·3	+·0002
15	46·3	63·7		52·4		−·0007	+·0009	− 0·1	+ 2·6	+·0003
30	45·3	64·0		52·8		−·0006	+·0009	− 0·6	+ 2·5	+·0004
45	45·0	63·4		52·8		−·0008	+·0009	− 0·5	+ 2·8	+·0003
19 00	44·5	63·5	63·1	52·9	63·4	−·0008	+·0010	− 0·7	+ 3·0	+·0004
15	44·0	63·4		52·9		−·0008	+·0010	− 1·0	+ 3·0	+·0004
30	43·3	63·3		52·9		−·0008	+·0011	− 1·4	+ 3·1	+·0004
45	42·4	63·0		52·4		−·0009	+·0010	− 2·0	+ 3·1	+·0003
20 00	42·0	62·7	63·2	51·9	63·5	−·0010	+·0010	− 2·3	+ 3·3	+·0003
15	42·0	62·3		50·8		−·0011	+.0009	− 2·4	+ 3·3	+·0002
30	42·5	62·3		49·2		−·0010	+·0008	− 2·2	+ 3·0	+·0002
45	43·2	62·7		47·6		−·0009	+·0007	− 1·8	+ 2·6	+·0001
21 00	44·1	63·0	63·5	46·0	63·8	−·0008	+·0006	− 1·3	+ 2·3	+·0001
15	45·1	63·0		45·2		−·0007	+·0006	− 1·0	+ 2·1	+·0001
30	46·1	63·0		43·7		−·0006	+·0004	− 0·7	+ 1·7	·0000
45	47·2	62·7		42·1		−·0006	+·0003	− 0·3	+ 1·5	·0000
22 00	48·1	62·7	64·2	41·5	64·2	−·0005	+·0003	− 0·1	+ 1·3	·0000
15	49·0	62·8		41·1		−·0005	+·0003	+ 0·1	+ 1·3	·0000
30	49·3	62·5		41·4		−·0005	+·0004	− 0·2	+ 1·5	+·0001
45	50·0	62·3		42·0		−·0005	+·0006	− 0·2	+ 1·8	+·0002
23 00	50·1	62·3	64·7	42·4	64·7	−·0005	+·0007	− 0·5	+ 2·0	+·0003
15	50·0	62·2		42·4		−·0005	+·0007	− 0·9	+ 2·0	+·0003
30	50·1	62·2		42·4		−·0004	+·0007	− 1·1	+ 1·8	+·0003
45	50·5	61·9		42·7		−·0004	+·0007	− 1·1	+ 1·8	+·0003
3 00 00	50·1	61·3	65·4	43·1	65·1	−·0005	+·0008	− 1·7	+ 2·1	+·0003

1844.
Cape of Good Hope.

December 4 and 14.

OBSERVATIONS OF THE MAGNETOMETERS.

The H. F. and V. F. were observed *immediately* after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
						$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
4 00 00	54·7	64·2	66·4	31·8	66·3	+·0004	−·0008	+ 1·7	− 2·0	−·0004
01 00	56·7	62·7	67·2	35·3	66·9	+·0002	−·0005	+ 2·7	− 1·2	−·0003
02 00	54·7	55·6	67·7	43·5	67·5	−·0011	+·0004	+ 1·6	+ 2·5	−·0001
05	54·2	55·8		43·7		−·0011	+·0004	+ 1·3	+ 2·5	−·0001
10	53·9	55·8		43·7		−·0010	+·0004	+ 1·1	+ 2·3	−·0001
15	53·1	56·0		44·0		−·0010	+·0004	+ 0·6	+ 2·3	−·0001
20	52·9	56·2		44·0		−·0009	+·0004	+ 0·5	+ 2·1	−·0001
25	52·8	56·8		44·0		−·0008	+·0004	+ 0·5	+ 2·0	·0000
30	52·9	57·6		43·4		−·0006	+·0003	+ 0·7	+ 1·5	·0000
35	52·8	58·2		42·9		−·0004	+·0002	+ 0·6	+ 1·0	·0000
40	52·8	58·8		42·6		−·0003	+·0002	+ 0·7	+ 0·8	·0000
45	52·8	59·0		42·1		−·0002	+·0001	+ 0·8	+ 0·5	·0000
50	52·7	59·7		42·1		·0000	+·0001	+ 0·8	+ 0·2	+·0001
55	52·2	58·8		42·1		−·0002	+·0001	+ 0·5	+ 0·5	·0000
03 00	52·3	60·0	68·8	41·9	68·1	+·0001	·0000	+ 0·6	− 0·2	·0000
05	52·5	60·2		41·1		+·0001	−·0001	+ 0·8	− 0·3	·0000
10	52·4	60·8		41·1		+·0003	−·0001	+ 0·8	− 0·7	·0000
15	52·3	60·8		41·1		+·0003	−·0001	+ 0·8	− 0·7	·0000
20	52·1	60·4		41·1		+·0002	−·0001	+ 0·7	− 0·5	·0000
25	52·2	60·6		41·1		+·0002	−·0001	+ 0·8	− 0·5	·0000
30	52·2	60·5		41·1		+·0002	−·0001	+ 0·8	− 0·5	·0000
45	52·2	60·4		41·6		+·0002	−·0001	+ 1·0	− 0·5	·0000
04 00	52·0	59·9	69·1	42·3	68·6	+·0001	·0000	+ 1·0	− 0·2	·0000
15	52·1	59·2		42·3		·0000	·0000	+ 1·1	0·0	·0000
30	52·2	59·1		42·3		·0000	·0000	+ 1·2	0·0	·0000
05 00	52·9	58·0	69·7	42·3	68·8	−·0001	·0000	+ 1·7	+ 0·1	·0000
15	52·9	57·5		42·6		−·0002	+·0001	+ 1·7	+ 0·5	·0000
30	52·9	56·9		43·3		−·0003	+·0002	+ 1·7	+ 0·8	·0000
45	52·2	56·1		44·7		−·0004	+·0004	+ 1·1	+ 1·3	+·0001
06 00	52·2	56·3	69·9	44·7	69·1	−·0003	+·0004	+ 1·1	+ 1·2	+·0002
15	52·1	55·9		45·4		−·0004	+·0005	+ 0·9	+ 1·5	+·0002
30	51·8	55·2		45·9		−·0005	+·0006	+ 0·5	+ 1·8	+·0002
45	51·8	55·0		45·9		−·0005	+·0006	+ 0·5	+ 1·8	+·0002
07 00	51·0	55·1	69·8	46·1	69·1	−·0005	+·0006	− 0·2	+ 1·8	+·0002
08 00	48·0	52·3	69·6	48·9	69·0	−·0011	+·0010	− 2·6	+ 3·5	+·0003
15	49·0	53·0		47·9		−·0010	+·0009	− 1·9	+ 3·1	+·0002
30	50·0	53·8		46·6		−·0008	+·0007	− 1·1	+ 2·5	+·0002
45	50·0	53·9		45·8		−·0008	+·0006	− 1·2	+ 2·3	+·0001
09 00	51·0	55·1	69·5	47·1	68·9	−·0006	+·0008	− 0·5	+ 2·3	+·0003
10 00	51·9	55·7	69·1	43·3	68·8	−·0006	+·0003	0·0	+ 1·5	·0000
14 04 00	52·2	62·0	70·2	40·0	69·5	+·0008	−·0003	+ 1·1	− 1·8	+·0001
05 00	53·3	60·7	70·4	40·4	70·0	+·0006	−·0002	+ 2·0	− 1·3	+·0001
06 00	51·6	53·6	70·6	47·0	69·9	−·0008	+·0008	+ 0·6	+ 2·6	+·0002
05	51·0	52·2		48·8		−·0011	+·0010	+ 0·2	+ 3·5	+·0003
10	50·9	51·9		49·1		−·0011	+·0011	0·0	+ 3·6	+·0003
15	50·0	50·5		52·1		−·0014	+·0015	− 0·7	+ 4·8	+·0005
20	49·0	49·7		52·9		−·0016	+·0016	− 1·5	+ 5·3	+·0005
25	49·0	49·5		53·2		−·0016	+·0016	− 1·5	+ 5·3	+·0005
30	48·2	49·6		53·6		−·0016	+·0017	− 2·2	+ 5·4	+·0005
35	47·9	49·9		53·6		−·0015	+·0017	− 2·4	+ 5·3	+·0006
40	47·5	50·0		53·6		−·0014	+·0017	− 2·7	+ 5·1	+·0006
45	47·2	49·9		53·8		−·0015	+·0017	− 3·0	+ 5·3	+·0006
50	47·9	49·0		53·2		−·0016	+·0017	− 2·5	+ 5·4	+·0005
55	48·9	47·6		52·3		−·0019	+·0015	− 1·8	+ 5·6	+·0003
07 00	49·0	46·3	70·7	52·3	70·2	−·0022	+·0015	− 1·7	+ 6·1	+·0002
05	49·0	46·2		52·3		−·0022	+·0015	− 1·7	+ 6·1	+·0002
10	48·7	47·2		52·3		−·0020	+·0015	− 2·0	+ 5·8	+·0002
15	48·2	47·9		52·0		−·0019	+·0015	− 2·3	+ 5·6	+·0003

1844.
Cape of Good Hope.

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OBSERVATIONS OF THE MAGNETOMETERS. The H. F. and V. F. were observed *immediately* after the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
14 07 20	47·8	48·0		52·0		−·0018	+·0015	− 2·6	+ 5·4	+·0003
25	47·5	48·2		51·6		−·0018	+·0014	− 2·9	+ 5·3	+·0003
30	47·2	48·7		51·2		−·0017	+·0014	− 3·1	+ 5·1	+·0003
35	47·2	48·8		50·9		−·0016	+·0013	− 3·2	+ 4·8	+·0003
40	47·1	48·8		50·7		−·0016	+·0013	− 3·2	+ 4·8	+·0003
45	47·8	49·0		50·1		−·0016	+·0012	− 2·7	+ 4·6	+·0002
50	48·0	49·0		49·5		−·0016	+·0012	− 2·6	+ 4·6	+·0002
55	47·6	48·2		49·7		−·0018	+·0012	− 2·9	+ 4·9	+·0001
08 00	47·2	47·7	70·7	49·7	70·3	−·0019	+·0012	− 3·2	+ 5·1	+·0001
05	48·3	47·8		48·0		−·0019	+·0009	− 2·3	+ 4·6	−·0001
10	49·0	48·2		48·3		−·0018	+·0010	− 1·8	+ 4·6	·0000
15	49·2	48·5		47·6		−·0017	+·0009	− 1·7	+ 4·3	·0000
20	49·6	48·2		47·2		−·0018	+·0008	− 1·4	+ 4·3	−·0001
25	49·8	48·0		47·0		−·0018	+·0008	− 1·3	+ 4·3	−·0001
30	50·0	47·8		46·5		−·0019	+·0008	− 1·1	+ 4·4	−·0002
35	50·2	47·6		46·2		−·0019	+·0007	− 1·0	+ 4·3	−·0002
40	50·2	47·8		45·8		−·0019	+·0007	− 1·0	+ 4·3	−·0002
45	50·2	48·1		45·6		−·0018	+·0006	− 1·1	+ 4·0	−·0003
50	50·6	48·8		44·9		−·0017	+·0006	− 0·8	+ 3·8	−·0002
55	50·8	49·7		44·3		−·0015	+·0005	− 0·6	+ 3·3	−·0002
09 00	51·0	50·2	70·7	43·5	70·2	−·0014	+·0004	− 0·5	+ 3·0	−·0002
05	51·1	51·1		42·9		−·0012	+·0003	− 0·4	+ 2·5	−·0002
10	51·7	51·3		42·3		−·0011	+·0002	0·0	+ 2·1	−·0003
15	51·8	51·1		42·0		−·0012	+·0001	+ 0·1	+ 2·1	−·0004
20	51·9	51·2		42·0		−·0012	+·0001	+ 0·2	+ 2·1	−·0004
25	52·0	50·8		41·8		−·0010	+·0001	+ 0·2	+ 1·8	−·0003
30	52·0	52·0		41·5		−·0010	+·0001	+ 0·2	+ 1·8	−·0003
35	52·0	52·3		41·2		−·0009	·0000	+ 0·2	+ 1·5	−·0003
40	52·0	52·7		40·9		−·0008	·0000	+ 0·2	+ 1·3	−·0003
45	52·1	52·9		40·9		−·0008	·0000	+ 0·2	+ 1·3	−·0003
50	52·1	53·0		40·6		−·0008	−·0001	+ 0·2	+ 1·2	−·0003
55	52·2	53·4		40·4		−·0007	−·0001	+ 0·2	+ 1·0	−·0003
10 00	52·2	53·7	70·7	40·2	70·4	−·0006	−·0001	+ 0·2	+ 0·8	−·0003
05	52·2	53·9		39·9		−·0006	−·0002	+ 0·2	+ 0·7	−·0003
10	52·2	53·9		39·9		−·0006	−·0002	+ 0·2	+ 0·7	−·0003
15	52·2	53·9		39·9		−·0006	−·0002	+ 0·2	+ 0·7	−·0003
20	52·2	54·0		39·9		−·0006	−·0002	+ 0·2	+ 0·7	−·0003
25	52·2	54·0		39·9		−·0006	−·0002	+ 0·2	+ 0·7	−·0003
30	52·1	54·1		40·2		−·0006	−·0001	+ 0·2	+ 0·8	−·0003
35	52·1	54·8		40·2		−·0004	−·0001	+ 0·2	+ 0·5	−·0002
40	52·3	55·0		39·3		−·0004	−·0003	+ 0·3	+ 0·2	−·0003
45	52·8	55·1		39·5		−·0004	−·0002	+ 0·7	+ 0·3	−·0003
50	52·9	55·3		39·3		−·0004	−·0003	+ 0·8	+ 0·2	−·0003
55	53·0	56·1		38·9		−·0002	−·0003	+ 0·8	− 0·2	−·0003
11 00	53·0	56·7	70·5	38·4	70·1	·0000	−·0004	+ 0·8	− 0·7	−·0003

1844.
St. Helena.

December 14.

ST. HELENA, 1844. DECEMBER 14.

MEAN MONTHLY READINGS OF THE MAGNETOMETERS.

Mean Göttingen Time.	Declination.	H. F. at 64°·2.	V. F. at 64°·1.	Mean Göttingen Time.	Declination.	H. F. at 64°·2.	V. F. at 64°·1.
Hours.	Sc. Div.	Sc. Div.	Sc. Div.	Hours.	Sc. Div.	Sc. Div.	Sc. Div.
00	96·2	64·9	46 8	12	94·8	57·3	47·2
01	96·6	64·7	46·8	13	94·7	57·6	47·1
02	95·9	63·9	47·1	14	94·5	57·6	46·9
03	94·4	63·0	47·4	15	94·0	57·9	46·8
04	93·0	62·0	47·7	16	93·5	58·0	46·6
05	92·5	61·3	48·0	17	93·1	57·9	46·5
06	92·6	60·5	47·9	18	92·6	58·2	46·4
07	93·1	59·1	48·0	19	91·9	58·6	46·7
08	94·0	58·1	47·9	20	90·4	60·1	46·3
09	94·6	57·9	47·7	21	90·1	61·6	46·3
10	94·9	57·7	47·5	22	91·7	63·0	46·1
11	95·0	57·6	47·3	23	93·9	64·1	46·7

Coefficients (A), Approximate Absolute Values (B).

(A)
- Declin. $a = 0'\cdot712$
- H. F. $k = \cdot00021$, $q = \cdot00028$
- V. F. $k = \cdot00090$, $q = \cdot00002$

(B) Approx.
- $\psi = 23°\ 22'$
- $X = 5\cdot57$
- $Y = 2\cdot24$
- $\theta = -\ 21°\ 54'$
- $\phi = 6\cdot00$

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.	
D. H. M.	Sc. Div.	Sc. Div.	Therm.	Sc. Div.	Therm.
14 05 02	95·0	40·4	67·1	49·3	66·9
06 02	94·2	51·2	67·3	49·4	66·8
07	94·1	50·0		49·5	
12	94·1	49·0		49·5	
17	94·0	48·0		49·5	
22	93·2	47·1		49·6	
27	93·0	47·0		49·6	
32	92·6	46·9		49·6	
37	92·5	46·9		49·6	
42	92·3	46·9		49·7	
47	91·9	46·5		49·7	
52	91·9	45·9		49·7	
57	92·0	44·8		49·7	
07 02	92·0	44·5	67·1	49·8	66·8
07	92·0	44·9		49·8	
12	92·0	45·1		49·8	
17	92·1	45·2		49·7	
22	92·0	45·1		49·7	
27	91·9	44·9		49·3	
32	92·0	44·6		49·3	
37	91·5	44·1		49·3	
42	91·5	44·2		49·3	
47	91·8	44·3		49·3	
52	92·0	44·1		49·3	
57	91·5	43·8		49·3	
08 02	91·0	43·5	67·0	49·3	67·0
07	91·8	43·5		49·3	
12	91·9	43·8		49·2	
17	92·1	44·1		49·2	
22	92·3	44·0		49·2	
27	92·5	43·9		49·2	
32	92·8	43·9		49·2	
37	93·0	43·9		49·2	
42	93·1	44·1		49·2	
47	93·1	44·5		49·3	
52	93·4	44·8		49·4	
57	93·6	45·9		49·4	
09 02	93·9	46·8	66·8	49·4	66·7
07	94·1	47·1		49·4	
12	94·1	47·1		49·3	

Differences from the Mean Monthly Values at the corresponding Hours.

$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
−·0036	+·0012	+ 1·8	+ 5·7	−·0029
−·0011	+·0014	+ 1·1	+ 2·9	−·0008
−·0013	+·0014	+ 1·1	+ 3·2	−·0009
−·0015	+·0014	+ 1·0	+ 3·4	−·0011
−·0017	+·0014	+ 0 9	+ 3·6	−·0013
−·0019	+·0015	+ 0·3	+ 4·0	−·0014
−·0019	+·0015	+ 0·1	+ 4·0	−·0014
−·0019	+·0015	− 0·1	+ 4·0	−·0014
−·0019	+·0014	− 0·3	+ 3·9	−·0015
−·0018	+·0015	− 0·4	+ 3·9	−·0014
−·0019	+·0015	− 0·8	+ 4·0	−·0014
−·0020	+·0015	− 0·8	+ 4·1	−·0015
−·0022	+·0015	− 0·8	+ 4·3	−·0017
−·0023	+·0016	− 0·8	+ 4·6	−·0018
−·0021	+·0016	− 0·8	+ 4·3	−·0016
−·0021	+·0016	− 0·9	+ 4·3	−·0016
−·0021	+·0015	− 0·8	+ 4·2	−·0016
−·0021	+·0015	− 1·0	+ 4·2	−·0016
−·0021	+·0012	− 1·1	+ 3·9	−·0017
−·0021	+·0012	− 1·1	+ 3·9	−·0017
−·0022	+·0013	− 1·5	+ 4·1	−·0017
−·0022	+·0013	− 1·5	+ 4·1	−·0017
−·0022	+·0013	− 1·4	+ 4·1	−·0017
−·0022	+·0013	− 1·3	+ 4·1	−·0017
−·0022	+·0013	− 1·7	+ 4·1	−·0017
−·0023	+·0013	− 2·1	+ 4·2	−·0018
−·0023	+·0013	− 1·6	+ 4·2	−·0018
−·0022	+·0012	− 1·5	+ 4·0	−·0017
−·0022	+·0012	− 1·5	+ 4·0	−·0017
−·0022	+·0013	− 1·3	+ 4·1	−·0017
−·0022	+·0013	− 1·3	+ 4·1	−·0017
−·0022	+·0013	− 1·1	+ 4·1	−·0017
−·0022	+·0013	− 1·0	+ 4·1	−·0017
−·0022	+·0013	− 0·9	+ 4·1	−·0017
−·0021	+·0014	− 1·0	+ 4·1	−·0016
−·0020	+·0015	− 0·8	+ 4·1	−·0015
−·0018	+·0015	− 0·7	+ 3·9	−·0014
−·0016	+·0015	− 0·5	+ 3·6	−·0012
−·0016	+·0015	− 0·4	+ 3·6	−·0012
−·0016	+·0014	− 0·4	+ 3·5	−·0012

1844.
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OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
						$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
14 09 17	94·1	47·3		49·4		−·0015	+·0015	− 0·4	+ 3·5	−·0011
22	94·2	47·7		49·4		−·0015	+·0016	− 0·4	+ 3·6	−·0011
27	94·2	48·0		49·3		−·0014	+·0015	− 0·4	+ 3·4	−·0010
32	94·3	48·4		49·3		−·0013	+·0015	− 0·4	+ 3·3	−·0009
37	94·4	48·9		49·3		−·0012	+·0015	− 0·3	+ 3·2	−·0008
42	94·5	49·1		49·3		−·0012	+·0015	− 0·2	+ 3·2	−·0008
47	94·6	49·4		48·8		−·0012	+·0011	− 0·1	+ 2·7	−·0009
52	94·6	49·7		48·8		−·0011	+·0012	− 0·2	+ 2·7	−·0008
57	94·6	50·0		48·8		−·0010	+·0012	− 0·2	+ 2·6	−·0007
10 02	94·8	50·1	66·2	48·8	66·4	−·0010	+·0012	− 0·1	+ 2·6	−·0007
07	94 9	50·2		48·8		−·0010	+·0012	0·0	+ 2·6	−·0007
12	95·0	50·1		48·8		−·0010	+·0012	+ 0·1	+ 2·6	−·0007
17	95·1	50·1		48·8		−·0010	+·0012	+ 0·1	+ 2·6	−·0007
22	95·0	50·3		48·8		−·0010	+·0013	+ 0·1	+ 2·7	−·0007
27	94·9	50·4		48·8		−·0010	+·0013	0·0	+ 2·7	−·0007
32	94·9	50·7		48·8		−·0009	+·0013	0·0	+ 2·6	−·0006
37	94·9	51·1		48·8		−·0008	+·0013	− 0·1	+ 2·5	−·0005
42	94·8	51·4		49·0		−·0008	+·0014	− 0·1	+ 2·6	−·0005
47	94·9	51·6		49·0		−·0007	+·0014	− 0·1	+ 2·5	−·0004
52	95·0	51·8		49·0		−·0007	+·0015	0·0	+ 2·6	−·0004
57	95·1	51·8		49·0		−·0007	+·0015	+ 0·1	+ 2·6	−·0004
11 02	95·4	48·1	66·1	49·1	66·3	−·0015	+·0016	+ 0·3	+ 3·6	−·0011

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MEAN MONTHLY READINGS OF THE MAGNETOMETERS.

Mean Göttingen Time.	Declination.	H. F. at 42°·4.	V. F. at 42°·7.	Mean Göttingen Time.	Declination.	H. F. at 42°·4.	V. F. at 42·7.
Hours.	Sc. Div.	Sc. Div.	Sc. Div.	Hours.	Sc. Div.	Sc. Div.	Sc. Div.
00	118·5	80·1	70·5	12	117·9	82·6	71·7
01	119·0	79·8	70·3	13	119·3	81·6	71·8
02	119·1	78·0	70·3	14	119·2	80·2	71·8
03	120·1	76·7	70·0	15	119·9	77·0	71·8
04	119·2	72·1	70·3	16	121·0	75·6	71·7
05	116·5	70·5	70·1	17	119·8	76·5	71·1
06	114·6	70·3	70·8	18	118·8	74·1	71·4
07	113·1	74·5	71·4	19	117·9	74·2	71·0
08	112·9	78·3	71·8	20	116·9	74·5	71·0
09	114·1	80·9	72·1	21	117·3	75·7	71·1
10	115·7	84·6	71·9	22	118·2	76·5	70·6
11	116·8	83·2	71·6	23	117·9	78·1	70·6

Coefficients (A), Approximate Absolute Values (B).

(A) Declin. $a = 0' \cdot 721$

H. F. $k = \cdot 000087$, $q = \cdot 00027$

V. F. $k = \cdot 000062$, $q = \cdot 00007$

(B) Approx. $\psi = 1° 26'$, $X = 3 \cdot 54$, $Y \doteq 13 \cdot 44$, $\theta = 75° 16'$, $\phi = 13 \cdot 90$

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
						$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
18 10 02	116·8	94·7	37·0	80·4	36·9	−·0006	+·0001	+ 0·8	+ 0·6	+·0001
07	116·9	94·9		80·6		−·0005	+·0001	+ 0·8	+ 0·5	+·0001
12	117·0	95·5		80·6		−·0005	+·0002	+ 0·8	+ 0·6	+·0002
17	117·0	95·9		79·1		−·0004	+·0001	+ 0·7	+ 0·4	+·0001
22	117·0	95·7		79·1		−·0004	+·0001	+ 0·7	+ 0·4	+·0001
27	117·6	96·8		79·1		−·0003	+·0001	+ 1·0	+ 0·3	+·0001
32	117·3	97·8		79·1		−·0002	+·0001	+ 0·8	+ 0·2	+·0001

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OBSERVATIONS OF THE MAGNETOMETERS. The Declination was observed 2m. before, and the V. F. 1m. after the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
18 10 37	116·8	96·3		79·1		−·0003	+·0001	+ 0·4	+ 0·3	+·0001
42	116·8	95·5		79·1		−·0003	+·0001	+ 0·3	+ 0·3	+·0001
47	116·5	95·5		78·8		−·0003	+·0001	0·0	+ 0·3	+·0001
52	116·8	95·5		78·2		−·0003	+·0001	+ 0·1	+ 0·3	+·0001
57	116·2	95·1		78·2		−·0003	+·0001	− 0·4	+ 0·3	+·0001
11 02	116·9	94·0	37·5	78·2	38·7	−·0004	+·0001	+ 0·1	+ 0·4	+·0001
07	117·1	94·0		78·2		−·0003	+·0001	+ 0·1	+ 0·3	+·0001
12	117·2	94·0		77·0		−·0003	+·0001	+ 0·1	+ 0·3	+·0001
17	117·0	93·6		76·4		−·0003	·0000	− 0·1	+ 0·2	·0000
22	117·9	93·6		76·4		−·0003	·0000	+ 0·5	+ 0·2	·0000
27	117·4	93·0		76·0		−·0003	·0000	+ 0·1	+ 0·2	·0000
32	117·1	93·1		76·0		−·0002	·0000	− 0·1	+ 0·2	·0000
37	118·0	92·8		76·0		−·0002	·0000	+ 0·4	+ 0·2	·0000
42	117·6	91·5		76·0		−·0003	·0000	+ 0·1	+ 0·2	·0000
47	117·0	90·5		76·0		−·0003	·0000	− 0·4	+ 0·2	·0000
52	117·0	89·7		76·0		−·0004	·0000	− 0·5	+ 0·3	·0000
57	117·0	88·1		76·0		−·0005	·0000	− 0·6	+ 0·4	·0000
12 02	117·1	86·5	39·0	75·0	39·6	−·0006	·0000	− 0·6	+ 0·5	·0000
07	117·9	84·4		75·0		−·0007	·0000	− 0·1	+ 0·6	·0000
12	118·0	84·1		75·0		−·0008	·0000	− 0·1	+ 0·7	·0000
17	118·3	83·5		75·0		−·0008	·0000	+ 0·1	+ 0·7	·0000
22	118·5	84·0		75·0		−·0007	·0000	+ 0·1	+ 0·6	·0000
27	118·0	85·1		75·0		−·0006	·0000	− 0·4	+ 0·5	·0000
32	117·2	86·3		75·0		−·0005	·0000	− 1·0	+ 0·4	·0000
37	117·0	86·8		75·0		−·0005	·0000	− 1·2	+ 0·4	·0000
42	117·2	87·0		75·0		−·0004	·0000	− 1·2	+ 0·3	·0000
47	117·0	87·0		74·2		−·0004	−·0001	− 1·4	+ 0·2	−·0001
52	118·0	87·5		74·2		−·0004	−·0001	− 0·8	+ 0·2	−·0001
57	118·0	88·4		74·2		−·0003	−·0001	− 0·9	+ 0·2	−·0001
13 02	118·0	89·0	39·2	74·2	39·8	−·0002	−·0001	− 0·9	+ 0·1	−·0001
07	118·0	88·8		74·2		−·0002	−·0001	− 0·9	+ 0·1	−·0001
12	118·1	89·0		74·8		−·0002	·0000	− 0·9	+ 0·2	·0000
17	118·4	89·5		74·8		−·0001	·0000	− 0·7	+ 0·1	·0000
22	118·8	90·2		74·8		·0000	·0000	− 0·4	0·0	·0000
27	118·2	89·7		74·8		·0000	·0000	− 0·8	0·0	·0000
32	119·0	90·4		74·8		+·0001	·0000	− 0·2	− 0·1	·0000
37	118·3	91·0		75·0		+·0002	·0000	− 0·7	− 0·2	·0000
42	118·6	92·0		75·0		+·0003	·0000	− 0·4	− 0·2	·0000
47	118·2	92·7		75·0		+·0004	·0000	− 0·7	− 0·3	·0000
52	118·2	94·0		74·7		+·0005	·0000	− 0·7	− 0·4	·0000
57	119·1	92·9		74·3		+·0004	·0000	− 0·1	− 0·3	·0000
14 02	119·5	93·4	40·0	74·1	40·4	+·0005	·0000	+ 0·2	− 0·4	·0000
07	119·0	92·9		73·8		+·0005	·0000	− 0·2	− 0·4	·0000
12	118·9	92·0		73·8		+·0005	·0000	− 0·3	− 0·4	·0000
17	118·8	91·5		72·9		+·0005	−·0001	− 0·4	− 0·5	−·0001
22	119·0	90·4		72·9		+·0004	−·0001	− 0·3	− 0·4	−·0001
27	118·8	89·3		72·9		+·0003	−·0001	− 0·5	− 0·3	−·0001
32	118·9	88·2		72·7		+·0003	−·0001	− 0·4	− 0·3	−·0001
37	119·1	87·1		72·7		+·0002	−·0001	− 0·4	− 0·2	−·0001
42	119·7	87·9		73·1		+·0003	·0000	0·0	− 0·2	·0000
47	119·0	88·3		73·1		+·0004	·0000	− 0·5	− 0·3	·0000
52	119·9	89·2		72·9		+·0005	·0000	+ 0·1	− 0·4	·0000
57	120·0	88·7		72·4		+·0005	−·0001	+ 0·1	− 0·5	−·0001
15 02	119·7	87·6	40·7	72·4	41·4	+·0005	−·0001	− 0·1	− 0·5	−·0001
07	119·8	87·7		72·4		+·0005	−·0001	− 0·1	− 0·5	−·0001
12	119·8	87·9		72·4		+·0005	−·0001	− 0·2	− 0·5	−·0001
17	120·0	87·8		72·4		+·0006	−·0001	− 0·1	− 0·6	−·0001
22	119·5	87·9		72·2		+·0006	−·0001	− 0·6	− 0·6	−·0001
27	119·6	87·4		72·2		+·0006	−·0001	− 0·6	− 0·6	−·0001
32	119·5	87·0		72·2		+·0006	−·0001	− 0·7	− 0·6	−·0001
37	119·0	87·0		72·2		+·0006	−·0001	− 1·1	− 0·6	−·0001
42	119·0	86·9		72·2		+·0006	−·0001	− 1·2	− 0·6	−·0001

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OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
18 15 47	119·0	86·9		72·0		+·0007	−·0001	− 1·2	− 0·7	−·0001
52	119·0	87·2		72·2		+·0007	·0000	− 1·3	− 0·6	·0000
57	118·8	87·3		72·4		+·0007	·0000	− 1·5	− 0·6	·0000
16 02	119·0	87·5	41·5	72·4	41·6	+·0008	·0000	− 1·4	− 0·7	·0000
07	119·0	87·3		71·9		+·0007	−·0001	− 1·4	− 0·7	−·0001
12	119·0	87·0		71·9		+·0007	−·0001	− 1·3	− 0·7	−·0001
17	119·0	85·5		71·9		+·0006	−·0001	− 1·2	− 0·6	−·0001
22	119·0	86·0		71·9		+·0006	−·0001	− 1·2	− 0·6	−·0001
27	119·0	85·2		72·0		+·0005	·0000	− 1·1	− 0·4	·0000
32	119·0	85·0		71·9		+·0004	·0000	− 1·0	− 0·3	·0000
37	119·0	85·3		72·2		+·0004	·0000	− 0·9	− 0·3	·0000
42	119·0	85·4		72·1		+·0004	·0000	− 0·9	− 0·3	·0000
47	119·0	84·0		72·1		+·0003	·0000	− 0·8	− 0·2	·0000
52	118·6	83·8		72·1		+·0002	·0000	− 1·0	− 0·2	·0000
57	118·2	84·0		72·2		+·0002	·0000	− 1·2	− 0·2	·0000
17 02	118·6	84·0	40·8	70·6	41·6	+·0002	−·0001	− 0·9	− 0·2	−·0001
07	119·2	83·6		70·6		+·0002	−·0001	− 0·4	− 0·2	−·0001
12	119·8	84·0		70·5		+·0003	−·0001	+ 0·1	− 0·3	−·0001
17	120·0	85·4		69·7		+·0004	−·0002	+ 0·3	− 0·5	−·0002
22	120·8	84·4		69·7		+·0003	−·0002	+ 0·9	− 0·4	−·0002
27	121·4	83·8		69·7		+·0003	−·0002	+ 1·4	− 0·4	−·0002
32	121·4	84·3		69·2		+·0004	−·0002	+ 1·5	− 0·5	−·0002
37	121·2	83·0		69·2		+·0003	−·0002	+ 1·4	− 0·4	−·0002
42	120·4	82·8		69·2		+·0003	−·0002	+ 0·9	− 0·4	−·0002
47	120·0	83·8		69·2		+·0004	−·0002	+ 0·7	− 0·5	−·0002
52	120·0	84·7		70·1		+·0005	−·0001	+ 0·7	− 0·5	−·0001
57	121·0	84·6		70·1		+·0005	−·0001	+ 1·5	− 0·5	−·0001
18 02	119·8	85·8	41·0	70·1	41·8	+·0006	−·0001	+ 0·7	− 0·6	−·0001
07	119·4	86·0		70·1		+·0007	−·0001	+ 0·5	− 0·7	−·0001
12	119·3	85·0		70·2		+·0006	−·0001	+ 0·5	− 0·6	−·0001
17	119·5	85·0		70·2		+·0006	−·0001	+ 0·7	− 0·6	−·0001
22	119·2	85·4		70·2		+·0006	−·0001	+ 0·5	− 0·6	−·0001
27	119·0	86·0		70·2		+·0006	−·0001	+ 0·4	− 0·6	−·0001
32	118·8	86·0		70·7		+·0006	−·0001	+ 0·4	− 0·6	−·0001
37	118·4	86·6		70·7		+·0007	−·0001	+ 0·1	− 0·7	−·0001
42	118·4	87·0		70·7		+·0007	−·0001	+ 0·1	− 0·7	−·0001
47	118·0	84·8		70·7		+·0005	−·0001	− 0·1	− 0·5	−·0001
52	118·0	83·6		70·5		+·0004	−·0001	0·0	− 0·4	−·0001
57	117·6	83·0		70·5		+·0003	−·0001	− 0·3	− 0·3	−·0001
19 02	117·4	83·6	40·8	70·5	41·9	+·0004	−·0001	− 0·4	− 0·4	−·0001
07	117·0	85·8		70·9		+·0006	−·0001	− 0·6	− 0·6	−·0001
12	117·0	85·0		70·5		+·0005	−·0001	− 0·5	− 0·5	−·0001
17	117·2	84·7		70·5		+·0005	−·0001	− 0·4	− 0·5	−·0001
22	117·0	84·7		70·9		+·0005	−·0001	− 0·4	− 0·5	−·0001
27	117·0	85·1		70·9		+·0005	−·0001	− 0·4	− 0·5	−·0001
32	117·2	85·6		70·9		+·0005	−·0001	− 0·1	− 0·5	−·0001
37	115·4	87·4		71·2		+·0007	−·0001	− 1·4	− 0·7	−·0001
42	111·4	89·8		70·3		+·0009	−·0001	− 4·2	− 0·9	·0000
47	111·5	90·9		69·9		+·0010	−·0001	− 4·1	− 0·9	·0000
52	112·3	90·6		68·9		+·0010	−·0002	− 3·5	− 1·0	−·0001
57	114·3	90·1		68·9		+·0009	−·0002	− 1·9	− 0·9	−·0001
20 02	116·0	90·2	40·8	68·3	41·6	+·0009	−·0002	− 0·7	− 0·9	−·0001
07	116·4	91·2		68·3		+·0010	−·0002	− 0·4	− 1·0	−·0001
12	116·5	89·4		68·2		+·0009	−·0002	− 0·4	− 0·9	−·0001
17	117·0	89·4		68·2		+·0009	−·0002	0·0	− 0·9	−·0001
22	118·0	89·2		67·5		+·0008	−·0003	+ 0·7	− 0·9	−·0002
27	118·8	89·9		67·2		+·0009	−·0003	+ 1·2	− 1·0	−·0002
32	119·0	89·8		66·0		+·0009	−·0004	+ 1·4	− 1·1	−·0003
37	120·4	87·9		64·8		+·0007	−·0004	+ 2·4	− 0·9	−·0003
42	121·9	87·2		64·1		+·0006	−·0005	+ 3·4	− 0·9	−·0004
47	122·3	86·3		64·1		+·0006	−·0005	+ 3·7	− 0·9	−·0004
52	121·8	86·2		63·4		+·0005	−·0005	+ 3·3	− 0·9	−·0004
57	120·8	83·1		63·2		+·0003	−·0005	+ 2·5	− 0·7	−·0005

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The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
						$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta \psi$	$\Delta \theta$	$\frac{\Delta \phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
18 21 02	120·6	83·7	41·0	63·2	42·1	+·0003	−·0005	+ 2·4	− 0·7	−·0005
07	119·3	82·8		62·1		+·0002	−·0006	+ 1·4	− 0·7	−·0006
12	118·5	84·5		62·1		+·0004	−·0006	+ 0·7	− 0·9	−·0005
17	118·6	85·1		62·1		+·0004	−·0006	+ 0·8	− 0·9	−·0005
22	119·8	85·2		60·5		+·0004	−·0007	+ 1·6	− 0·9	−·0006
27	121·2	81·2		60·3		+·0001	−·0007	+ 2·5	− 0·7	−·0007
32	123·7	79·6		58·6		·0000	−·0008	+ 4·3	− 0·7	−·0008
37	127·5	78·3		58·0		−·0002	−·0008	+ 7·0	− 0·5	−·0008
42	129·5	78·9		59·2		−·0001	−·0007	+ 8·3	− 0·5	−·0007
47	130·4	78·6		59·9		−·0001	−·0007	+ 9·0	− 0·5	−·0007
52	132·3	78·9		59·9		−·0001	−·0007	+10·2	− 0·5	−·0007
57	132·8	79·6		60·9		·0000	−·0006	+10·6	− 0·5	−·0006
22 02	132·8	78·9	41·2	60·9	42·4	−·0001	−·0006	+10·5	− 0·4	−·0006
07	132·6	79·6		62·9		−·0001	−·0005	+10·4	− 0·3	−·0005
12	132·5	78·9		62·7		−·0001	−·0005	+10·4	− 0·3	−·0005
17	132·0	79·2		62·9		−·0001	−·0005	+10·0	− 0·3	−·0005
22	129·8	80·2		62·9		−·0001	−·0005	+ 8·4	− 0·3	−·0005
27	127·3	80·4		64·6		−·0001	−·0004	+ 6·6	− 0·2	−·0004
32	126·4	80·4		64·6		−·0001	−·0004	+ 6·1	− 0·2	−·0004
37	125·9	80·9		64·6		−·0001	−·0004	+ 5·7	− 0·2	−·0004
42	125·8	81·9		64·6		·0000	−·0004	+ 5·6	− 0·3	−·0004
47	125·0	82·0		64·6		·0000	−·0004	+ 5·1	− 0·3	−·0004
52	125·0	83·3		64·4		+·0001	−·0004	+ 5·1	− 0·4	−·0004
57	124·3	82·9		64·4		+·0001	−·0004	+ 4·6	− 0·4	−·0004
23 02	125·0	84·9	41·0	64·4	42·7	+·0002	−·0004	+ 5·1	− 0·5	−·0004
07	123·9	85·2		64·2		+·0002	−·0004	+ 4·3	− 0·5	−·0004
12	122·9	85·9		64·2		+·0003	−·0004	+ 3·5	− 0·6	−·0004
17	121·4	83·8		64·2		+·0001	−·0004	+ 2·4	− 0·4	−·0004
22	121·3	84·5		64·2		+·0001	−·0004	+ 2·3	− 0·4	−·0004
27	122·1	85·7		64·4		+·0002	−·0004	+ 2·8	− 0·4	−·0004
32	121·9	84·8		64·4		+·0001	−·0004	+ 2·7	− 0·4	−·0004
37	121·8	84·4		64·4		+·0001	−·0004	+ 2·5	− 0·4	−·0004
42	121·8	84·4		64·4		+·0001	−·0004	+ 2·5	− 0·4	−·0004
47	121·1	86·3		66·4		+·0003	−·0003	+ 1·9	− 0·5	−·0003
52	120·0	85·9		66·4		+·0002	−·0003	+ 1·2	− 0·4	−·0003
57	119·3	86·6		66·4		+·0003	−·0003	+ 0·6	− 0·5	−·0003
19 00 02	118·2	85·9	41·2	68·6	42·6	+·0002	−·0001	− 0·2	− 0·2	−·0001
07	117·0	86·8		68·6		+·0003	−·0001	− 1·1	− 0·3	−·0001
12	116·8	87·1		68·6		+·0003	−·0001	− 1·3	− 0·3	−·0001
17	116·1	87·7		68·8		+·0004	−·0001	− 1·8	− 0·4	−·0001
22	116·0	87·1		69·0		+·0003	−·0001	− 1·9	− 0·3	−·0001
27	115·8	87·3		69·9		+·0004	−·0001	− 2·1	− 0·4	−·0001
32	115·8	87·9		68·6		+·0004	−·0001	− 2·1	− 0·4	−·0001
37	115·8	87·7		68·6		+·0004	−·0001	− 2·2	− 0·4	−·0001
42	115·9	88·0		68·8		+·0005	−·0001	− 2·1	− 0·5	−·0001
47	115·9	87·6		68·8		+·0004	−·0001	− 2·2	− 0·4	−·0001
52	116·1	90·1		68·2		+·0007	−·0001	− 2·0	− 0·7	−·0001
57	115·0	88·6		68·2		+·0005	−·0001	− 2·9	− 0·5	−·0001
01 02	115·8	90·4	41·6	68·2	42·8	+·0007	−·0001	− 2·3	− 0·7	−·0001
07	115·3	89·3		68·2		+·0006	−·0001	− 2·7	− 0·6	−·0001
12	116·8	88·2		67·9		+·0005	−·0001	− 1·6	− 0·5	−·0001
17	117·5	91·4		67·9		+·0009	−·0001	− 1·1	− 0·9	·0000
22	116·8	89·1		67·9		+·0007	−·0001	− 1·6	− 0·7	−·0001
27	117·3	90·8		67·4		+·0008	−·0002	− 1·2	− 0·9	−·0001
32	117·7	90·4		67·4		+·0008	−·0002	− 0·9	− 0·9	−·0001
37	118·3	90·9		67·4		+·0009	−·0002	− 0·6	− 0·9	−·0001
42	118·4	91·0		67·1		+·0009	−·0002	− 0·5	− 0·9	−·0001
47	117·3	87·3		67·1		+·0006	−·0002	− 1·3	− 0·7	−·0002
52	118·1	88·6		67·1		+·0007	−·0002	− 0·7	− 0·8	−·0001
57	118·2	88·8		67·0		+·0008	−·0002	− 0·7	− 0·9	−·0001
02 02	118·2	89·0	41·8	67·0	42·8	+·0008	−·0002	− 0·7	− 0·9	−·0001
07	118·2	88·1		67·0		+·0007	−·0002	− 0·7	− 0·8	−·0001
12	118·7	88·9		67·0		+·0008	−·0002	− 0·4	− 0·9	−·0001

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
						$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta \psi$	$\Delta \theta$	$\frac{\Delta \phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
19 02 17	119·3	88·1		67·0		+·0007	−·0002	0·0	− 0·8	−·0001
22	118·1	88·5		66·3		+·0007	−·0003	− 0·9	− 0·9	−·0002
27	119·3	90·6		66·3		+·0009	−·0003	− 0·1	− 1·0	−·0002
32	119·3	87·8		67·3		+·0007	−·0002	− 0·2	− 0·8	−·0001
37	119·9	88·1		67·3		+·0007	−·0002	+ 0·1	− 0·8	−·0001
42	120·7	89·0		67·7		+·0008	−·0002	+ 0·7	− 0·9	−·0001
47	118·8	87·6		67·7		+·0007	−·0002	− 0·7	− 0·8	−·0001
52	119·1	87·8		67·7		+·0007	−·0002	− 0·6	− 0·8	−·0001
57	119·0	87·4		67·7		+·0006	−·0002	− 0·7	− 0·7	−·0002
03 02	119·5	86·9	41·3	68·6	41·6	+·0006	−·0002	− 0·4	− 0·7	−·0002
07	119·9	86·9		68·6		+·0006	−·0002	− 0·1	− 0·7	−·0002
12	118·6	86·9		68·6		+·0006	−·0002	− 0·9	− 0·7	−·0002
17	119·2	77·4		68·3		−·0002	−·0002	− 0·5	0·0	−·0002
22	125·3	83·0		69·4		+·0004	−·0001	+ 4·0	− 0·4	−·0001
27	122·9	83·9		69·4		+·0005	−·0001	+ 2·3	− 0·5	−·0001
32	120·5	82·3		69·2		+·0003	−·0001	+ 0·7	− 0·3	−·0001
37	118·1	81·0		69·2		+·0003	−·0001	− 1·1	− 0·3	−·0001
42	116·8	81·5		69·2		+·0003	−·0001	− 1·9	− 0·3	−·0001
47	116·0	80·1		70·6		+·0002	−·0001	− 2·5	− 0·2	−·0001
52	116·1	78·7		70·6		+·0001	−·0001	− 2·3	− 0·2	−·0001
57	115·2	75·5		70·6		−·0001	−·0001	− 3·0	0·0	−·0001
04 02	114·7	74·5	41·0	70·6	41·6	−·0002	−·0001	− 3·2	+ 0·1	−·0001
07	113·0	73·4		70·6		−·0003	−·0001	− 4·3	+ 0·2	−·0001
12	112·9	74·0		70·6		−·0002	−·0001	− 4·2	+ 0·1	−·0001
17	114·1	75·0		70·6		−·0001	−·0001	− 3·2	0·0	−·0001
22	114·4	75·8		70·6		·0000	−·0001	− 2·8	− 0·1	−·0001
27	114·5	77·5		70·8		+·0002	·0000	− 2·6	− 0·2	·0000
32	114·5	78·1		71·6		+·0002	·0000	− 2·4	− 0·2	·0000
37	113·5	75·4		71·4		·0000	·0000	− 3·0	0·0	·0000
42	116·2	77·0		71·7		+·0001	·0000	− 0·9	− 0·1	·0000
47	115·0	76·8		71·7		+·0001	·0000	− 1·6	− 0·1	·0000
52	113·6	74·1		71·7		−·0001	·0000	− 2·4	+ 0·1	·0000
57	113·5	73·0		71·7		−·0002	·0000	− 2·3	+ 0·2	·0000
05 02	113·0	71·6	41·0	72·3	41·6	−·0003	+·0001	− 2·5	+ 0·3	+·0001
07	113·0	71·0		72·3		−·0003	+·0001	− 2·4	+ 0·3	+·0001
12	112·4	70·5		72·3		−·0004	+·0001	− 2·7	+ 0·4	+·0001
17	112·0	71·0		72·1		−·0003	·0000	− 2·9	+ 0·2	·0000
22	113·8	70·4		72·1		−·0004	·0000	− 1·5	+ 0·3	·0000
27	112 6	70·7		72·1		−·0004	·0000	− 2·2	+ 0·3	·0000
32	113·0	66·6		72·1		−·0007	·0000	− 1·9	+ 0·6	·0000
37	112·8	70·4		72·2		−·0004	·0000	− 1·9	+ 0·3	·0000
42	112·2	68·2		72·6		−·0006	·0000	− 2·2	+ 0·5	·0000
47	112·2	67·0		72·4		−·0007	·0000	− 2·1	+ 0·6	·0000
52	112·4	69·8		72·8		−·0005	·0000	− 1·8	+ 0·4	·0000
57	112·3	70·7		72·7		−·0004	·0000	− 1·8	+ 0·3	·0000
06 02	112·2	72·3	40·8	72·7	41·0	−·0003	·0000	− 1·7	+ 0·2	·0000
07	113·1	72·5		72·7		−·0003	·0000	− 1·0	+ 0·2	·0000
12	113·6	74·0		72·8		−·0001	·0000	− 0·5	+ 0·1	·0000
17	113·6	74·4		72·9		−·0001	·0000	− 0·4	+ 0·1	·0000
22	113·5	73 9		72·6		−·0002	·0000	− 0·4	+ 0·2	·0000
27	114·0	74·3		73·5		−·0001	+·0001	0·0	+ 0·2	+·0001
32	113·2	79·7		73·5		+·0003	+·0001	− 0·4	− 0·2	+·0001
37	112·9	80·2		73·5		+·0004	+·0001	− 0·6	− 0·2	+·0001
42	113·0	81·5		74·4		+·0005	+·0001	− 0·4	− 0·3	+·0001
47	113·1	80·0		73·7		+·0003	+·0001	− 0·3	− 0·2	+·0001
52	113·0	79·6		73·6		+·0003	+·0001	− 0·2	− 0·2	+·0001
57	113·2	78·7		73·6		+·0002	+·0001	0·0	− 0·1	+·0001
07 02	114·3	83·5	41·8	74·5	41·6	+·0006	+·0001	+ 0·9	− 0·4	+·0001
07	112·6	81·7		73·9		+·0004	+·0001	− 0·4	− 0·2	+·0001
12	112·7	81·8		73·9		+·0004	+·0001	− 0·3	− 0·2	+·0001
17	113·4	81·2		73·9		+·0003	+·0001	+ 0·2	− 0·2	+·0001
22	113·7	81·4		73·9		+·0003	+·0001	+ 0·5	− 0·2	+·0001
27	113·9	81·4		73·9		+·0003	+·0001	+ 0·7	− 0·2	+·0001

1844. Toronto. December 19.

OBSERVATIONS OF THE MAGNETOMETERS. The Declination was observed 2m. before, and the V. F. 1m. after the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
19 07 32	113·1	82·6		73·9		+·0004	+·0001	+ 0·1	− 0·2	+·0001
37	113·5	82·0		73·9		+·0003	+·0001	+ 0·4	− 0·2	+·0001
42	113·9	81·4		73·9		+·0002	+·0001	+ 0·7	− 0·1	+·0001
47	114·2	82·3		73·7		+·0003	+·0001	+ 0·9	− 0·2	+·0001
52	114·1	82·9		73·7		+·0003	+·0001	+ 0·9	− 0·2	+·0001
57	114·0	80·4		73·5		·0000	·0000	+ 0·8	0·0	·0000
08 02	114·5	80·8	41·8	73·5	41·7	+·0001	·0000	+ 1·2	− 0·1	·0000
07	114·9	81·6		73·5		+·0001	·0000	+ 1·4	− 0·1	·0000
12	115·4	81·9		72·5		+·0001	·0000	+ 1·7	− 0·1	·0000
17	115·8	81·5		73·5		·0000	·0000	+ 1·9	0·0	·0000
22	115·5	80·7		73·7		−·0001	·0000	+ 1·6	+ 0·1	·0000
27	115·8	80·8		73·7		−·0001	·0000	+ 1·7	+ 0·1	·0000
32	115·5	81·0		73·7		−·0001	·0000	+ 1·4	+ 0·1	·0000
37	115·5	82·5		73·7		·0000	·0000	+ 1·4	0·0	·0000
42	115·6	83·0		73·7		+·0001	·0000	+ 1·4	− 0·1	·0000
47	115·7	82·0		74·0		−·0001	+·0001	+ 1·4	+ 0·2	+·0001
52	115·2	82·5		74·0		·0000	·0000	+ 0·9	0·0	·0000
57	115·1	83·5		74·0		·0000	·0000	+ 0·8	0·0	·0000
09 02	114·8	80·5	41·6	74·0	41·6	−·0003	·0000	+ 0·5	+ 0·2	·0000
07	115·0	81·0		74·0		−·0002	·0000	+ 0·6	+ 0·2	·0000
12	115·0	79·2		74·0		−·0004	·0000	+ 0·4	+ 0·3	·0000
17	115·5	79·5		73·5		−·0004	·0000	+ 0·7	+ 0·3	·0000
22	115·6	80·8		73·5		−·0003	·0000	+ 0·7	+ 0·2	·0000
27	115·5	81·5		73·5		−·0003	·0000	+ 0·5	+ 0·2	·0000
32	115·6	82·0		73·5		−·0003	+·0001	+ 0·5	+ 0·3	+·0001
37	116·7	87·1		75·7		+·0001	+·0001	+ 1·2	0·0	+·0001
42	116·2	87·2		75·7		+·0001	+·0001	+ 0·7	0·0	+·0001
47	113·8	83·5		75·7		−·0002	+·0001	− 1·1	+ 0·2	+·0001
52	112·3	81·2		75·7		−·0005	+·0002	− 2·2	+ 0·6	+·0002
57	112·9	83·1		75·7		−·0003	+·0002	− 1·9	+ 0·4	+·0002

1844. St. Helena. December 29.

For Mean Monthly Readings, *see* page 428.

ST. HELENA, 1844. DECEMBER 29, 30.

29 12 02	91·8	41·0	65·0	47·9	64·7	−·0031	+·0006	− 2·1	+ 4·4	−·0026
07	92·0	41·1		47·9		−·0032	+·0006	− 2·0	+ 4·5	−·0027
12	92·1	41·6		47·9		−·0031	+·0006	− 1·9	+ 4·4	−·0026
17	92·7	42·1		47·9		−·0030	+·0006	− 1·5	+ 4·2	−·0025
22	92·9	42·3		47·9		−·0030	+·0006	− 1·3	+ 4·2	−·0025
27	92·9	42·2		47·9		−·0030	+·0006	− 1·3	+ 4·2	−·0025
32	92·9	42·0		47·9		−·0031	+·0006	− 1·3	+ 4·4	−·0026
37	92·7	41·8		47·9		−·0031	+·0007	− 1·4	+ 4·5	−·0026
42	92·7	42·3		47·9		−·0030	+·0007	− 1·4	+ 4·4	−·0025
47	92·9	43·6		47·9		−·0027	+·0007	− 1·3	+ 4·0	−·0022
52	93·0	44·2		47·6		−·0026	+·0005	− 1·2	+ 3·6	−·0022
57	93·2	44·8		47·3		−·0025	+·0002	− 1·1	+ 3·2	−·0021
13 02	93·2	44·2	64·9	47·3	65·2	−·0026	+·0002	− 1·1	+ 3·3	−·0022
07	93·3	44·8		47·3		−·0025	+·0002	− 1·0	+ 3·2	−·0021
12	93·9	—		—		—	—	− 0·6	—	—
17	94·1	45·0		47·3		−·0025	+·0002	− 0·4	+ 3·2	−·0021
22	93·9	45·0		47·3		−·0025	+·0003	− 0·5	+ 3·3	−·0021
27	93·9	44·9		47·3		−·0025	+·0003	− 0·5	+ 3·3	−·0021
32	93·9	44·8		47·4		−·0025	+·0004	− 0·5	+ 3·4	−·0021
37	94·1	45·4		47·4		−·0024	+·0004	− 0·4	+ 3·3	−·0020
42	94·1	45·1		47·4		−·0025	+·0004	− 0·4	+ 3·4	−·0021
47	94·0	44·9		47·4		−·0025	+·0004	− 0·4	+ 3·4	−·0021
52	94·0	44·9		47·4		−·0025	+·0005	− 0·4	+ 3·5	−·0021
57	93·9	44·9		47·4		−·0025	+·0005	− 0·4	+ 3·5	−·0021
14 02	93·9	44·9	64·8	47·4	65·0	−·0025	+·0005	− 0·4	+ 3·5	−·0021
07	93·9	44·9		47·4		−·0025	+·0005	− 0·4	+ 3·5	−·0021
12	93·9	44·8		47·4		−·0025	+·0005	− 0·4	+ 3·5	−·0021

1844.
St. Helena.
December 29.

OBSERVATIONS OF THE MAGNETOMETERS.

The Declination was observed 2m. before, and the V. F. 1m. after the times specified.

Differences from the Mean Monthly Values at the corresponding Hours.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm.	Sc. Div.	Therm.	Parts of Hor. Force.	Parts of Vert. Force.	′	″	Parts of Total Force.
29 14 17	94·0	47·4		47·4		−·0020	+·0005	− 0·3	+ 2·9	−·0017
27	94·9	47·8		47·4		−·0019	+·0005	+ 0·4	+ 2·8	−·0016
32	95·1	47·9		47·4		−·0019	+·0005	+ 0·6	+ 2·8	−·0016
37	95·9	48·0		47·4		−·0019	+·0005	+ 1·2	+ 2·8	−·0016
42	96·0	48·1		47·5		−·0019	+·0006	+ 1·3	+ 2·9	−·0016
47	96·1	48·4		47·5		−·0018	+·0006	+ 1·4	+ 2·8	−·0015
52	95·9	49·1		47·5		−·0017	+·0006	+ 1·3	+ 2·7	−·0014
57	95·4	49·8		47·5		−·0016	+·0006	+ 1·0	+ 2·6	−·0013
15 02	95·4	49·9	64·7	47·4	64·8	−·0015	+·0005	+ 1·0	+ 2·4	−·0012
07	95·1	48·9		47·4		−·0017	+·0005	+ 0·8	+ 2·6	−·0014
12	95·1	48·9		47·4		−·0017	+·0005	+ 0·8	+ 2·6	−·0014
17	95·1	49·8		47·4		−·0016	+·0005	+ 0·8	+ 2·5	−·0013
22	95·4	49·8		47·4		−·0016	+·0006	+ 1·1	+ 2·6	−·0013
27	95·1	49·8		47·4		−·0016	+·0006	+ 0·9	+ 2·6	−·0013
32	95·1	49·8		47·4		−·0016	+·0006	+ 0·9	+ 2·6	−·0013
37	94·9	47·8		47·4		−·0020	+·0006	+ 0·8	+ 3·1	−·0016
42	94·4	48·1		47·4		−·0019	+·0006	+ 0·5	+ 2·9	−·0016
47	94·1	48·3		47·2		−·0019	+·0005	+ 0·4	+ 2·8	−·0016
52	94·1	48·4		47·2		−·0019	+·0005	+ 0·4	+ 2·8	−·0016
57	94·1	48·1		47·2		−·0019	+·0005	+ 0·4	+ 2·8	−·0016
16 02	93·8	49·1	64·7	47·2	64·9	−·0017	+·0005	+ 0·2	+ 2·6	−·0014
07	93·0	49·1		46·9		−·0017	+·0003	− 0·4	+ 2·4	−·0014
12	92·8	49·1		46·9		−·0017	+·0003	− 0·4	+ 2·4	−·0014
17	92·5	49·0		46·9		−·0017	+·0003	− 0·6	+ 2·4	−·0014
22	93·1	48·9		46·9		−·0018	+·0003	− 0·2	+ 2·5	−·0015
27	93·1	48·1		46·9		−·0020	+·0003	− 0·1	+ 2·7	−·0017
32	93·4	48·1		46·9		−·0020	+·0003	+ 0·1	+ 2·7	−·0017
37	93·4	48·1		46·9		−·0019	+·0004	+ 0·1	+ 2·7	−·0016
42	93·4	48·1		46·9		−·0019	+·0004	+ 0·1	+ 2·7	−·0016
47	93·5	48·0		46·9		−·0020	+·0004	+ 0·2	+ 2·8	−·0017
52	93·8	49·1		46·9		−·0017	+·0004	+ 0·4	+ 2·5	−·0014
57	94·1	49·1		46·9		−·0017	+·0004	+ 0·7	+ 2·5	−·0014
17 02	94·1	48·4	64·6	46·9	64·9	−·0019	+·0004	+ 0·7	+ 2·7	−·0016
07	94·1	48·9		46·9		−·0018	+·0004	+ 0·7	+ 2·6	−·0015
12	93·6	49·4		46·9		−·0017	+·0004	+ 0·4	+ 2·5	−·0014
17	93·3	49·5		46·9		−·0017	+·0004	+ 0·2	+ 2·5	−·0014
22	92·6	49·8		46·9		−·0016	+·0004	− 0·2	+ 2·4	−·0013
27	92·7	49·8		46·9		−·0016	+·0004	− 0·1	+ 2·4	−·0013
32	92·6	49·8		46·9		−·0016	+·0004	− 0·2	+ 2·4	−·0013
37	92·6	50·2		46·9		−·0016	+·0005	− 0·1	+ 2·5	−·0013
42	92·5	49·7		46·9		−·0017	+·0005	− 0·2	+ 2·6	−·0014
47	92·1	49·8		46·9		−·0017	+·0005	− 0·4	+ 2·6	−·0014
52	91·9	49·6		46·9		−·0017	+·0005	− 0·6	+ 2·6	−·0014
57	92·0	49·3		46·9		−·0018	+·0005	− 0·4	+ 2·7	−·0015
18 02	92·1	49·6	64·5	46·7	64·8	−·0017	+·0003	− 0·4	+ 2·4	−·0014
07	92·0	49·7		46·7		−·0017	+·0003	− 0·4	+ 2·4	−·0014
12	92·1	49·8		46·7		−·0017	+·0002	− 0·3	+ 2·2	−·0015
17	92·1	49·4		46·8		−·0018	+·0003	− 0·2	+ 2·5	−·0015
22	92·3	49·6		46·8		−·0017	+·0003	− 0·1	+ 2·4	−·0014
27	92·0	49·8		46·8		−·0017	+·0003	− 0·2	+ 2·4	−·0014
32	91·7	50·0		46·8		−·0017	+·0002	− 0·4	+ 2·2	−·0015
37	91·5	49·8		46·8		−·0017	+·0002	− 0·5	+ 2·2	−·0015
42	91·5	49·6		46·8		−·0018	+·0002	− 0·4	+ 2·4	−·0015
47	91·3	49·6		46·8		−·0018	+·0002	− 0·6	+ 2·4	−·0015
52	90·9	49·2		46·8		−·0019	+·0001	− 0·8	+ 2·4	−·0016
57	90·9	49·2		46·8		−·0019	+·0001	− 0·8	+ 2·4	−·0016
19 02	90·4	49·2	64·4	46·8	64·7	−·0019	+·0001	− 1·1	+ 2·4	− 0016
07	90·5	49·9		46·8		−·0018	+·0001	− 0·9	+ 2·2	−·0016
12	90·0	50·2		46·8		−·0018	+·0002	− 1·1	+ 2·4	−·0015
17	89·8	50·4		46·8		−·0017	+·0002	− 1·2	+ 2·2	−·0015
22	89·8	50·4		46·8		−·0018	+·0002	− 1·1	+ 2·4	−·0015

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St. Helena.

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OBSERVATIONS OF THE MAGNETOMETERS. The Declination was observed 2m. before, and the V. F. 1m. after the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm.	Sc. Div.	Therm.	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
29 19 27	89·7	50·2		46 0		−·0018	−·0005	− 1·1	+ 1·5	−·0016
32	89·2	50·2		46·0		−·0019	−·0005	− 1·3	+ 1·7	−·0017
37	89·0	50·3		45·8		−·0019	−·0006	− 1·4	+ 1·5	−·0017
42	88·8	50·4		45·8		−·0019	−·0005	− 1·5	+ 1·7	−·0017
47	88·5	50·9		45·8		−·0018	−·0005	− 1·6	+ 1·5	−·0016
52	88·3	51·4		45·8		−·0017	−·0005	− 1·6	+ 1·4	−·0015
57	87·9	51·6		45·8		−·0017	−·0005	− 1·8	+ 1·4	−·0015
20 02	87·8	51·9	64·4	45·8	64·4	−·0017	−·0005	− 1·8	+ 1·4	−·0015
07	87·6	52·1		45·9		−·0016	−·0004	− 2·0	+ 1·4	−·0014
12	87·5	52·3		45·8		−·0017	−·0005	− 2·0	+ 1·4	−·0015
17	87·3	52·5		45·9		−·0016	−·0004	− 2·1	+ 1·4	−·0014
22	87·1	52·7		45·9		−·0016	−·0004	− 2·2	+ 1·4	−·0014
27	87·0	53·0		46·0		−·0016	−·0003	− 2·3	+ 1·5	−·0014
32	86·9	53·7		45·9		−·0015	−·0004	− 2·3	+ 1·3	−·0014
37	86·9	53·9		45·9		−·0015	−·0004	− 2·3	+ 1·3	−·0014
42	86·8	53·9		46·0		−·0015	−·0003	− 2·4	+ 1·4	−·0013
47	86·8	54·2		46·0		−·0015	−·0003	− 2·4	+ 1·4	−·0013
52	86·5	54·6		45·9		−·0014	−·0004	− 2·5	+ 1·2	−·0013
57	86·4	54·4		45·9		−·0015	−·0004	− 2·6	+ 1·3	−·0014
21 02	86·2	54·0	64·2	45·8	64·3	−·0016	−·0005	− 2·7	+ 1·3	−·0015
07	86·1	54·4		45·8		−·0015	−·0005	− 2·9	+ 1·2	−·0014
12	86·1	55·2		45·8		−·0014	−·0005	− 3·0	+ 1·0	−·0013
17	86·2	55·7		45·9		−·0013	−·0004	− 3·0	+ 1·0	−·0012
22	86·1	55·8		45·9		−·0013	−·0003	− 3·2	+ 1·2	−·0012
27	86·0	56·1		45·9		−·0013	−·0003	− 3·4	+ 1·2	−·0012
32	86·1	56·6		45·9		−·0012	−·0003	− 3·4	+ 1·0	−·0011
37	86·1	57·0		45·9		−·0011	−·0003	− 3·4	+ 0·9	−·0010
42	86·1	57·0		46·1		−·0011	−·0001	− 3·7	+ 1·2	−·0010
47	86·1	57·0		46·1		−·0012	−·0001	− 3·7	+ 1·3	−·0011
52	86·2	57·1		46·1		−·0012	·0000	− 3·7	+ 1·4	−·0010
57	86·2	57·1		46·1		−·0012	·0000	− 3·9	+ 1·4	−·0010
22 02	86·4	57·4	64·3	46·1	64·3	−·0012	·0000	− 3·8	+ 1·4	−·0010
07	86·6	57·7		46·1		−·0011	−·0001	− 3·8	+ 1·2	−·0010
12	86·5	57·1		46·0		−·0012	−·0002	− 4·0	+ 1·2	−·0011
17	86·2	56·8		46·0		−·0013	−·0003	− 4·3	+ 1·2	−·0012
22	86·2	56·8		46·0		−·0013	−·0003	− 4·4	+ 1·2	−·0012
27	86·4	56·8		46·0		−·0013	−·0004	− 4·4	+ 1·0	−·0012
32	86·5	56·7		46·0		−·0013	−·0004	− 4·5	+ 1·0	−·0012
37	86·7	56·8		46·0		−·0013	−·0005	− 4·5	+ 0·9	−·0012
42	87·0	56·8		46·0		−·0013	−·0005	− 4·4	+ 0·9	−·0012
47	87·2	56·9		46·0		−·0013	−·0005	− 4·4	+ 0·9	−·0012
52	87·6	56·9		46·0		−·0013	−·0005	− 4·2	+ 0·9	−·0012
57	87·6	56·8		46·0		−·0014	−·0006	− 4·4	+ 0·9	−·0013
23 02	87·6	56·8	64·7	45·8	64·3	−·0014	−·0008	− 4·5	+ 0·7	−·0013
07	87·9	57·0		45·8		−·0014	−·0008	− 4·4	+ 0·7	−·0013
12	88·0	57·0		45·8		−·0014	−·0008	− 4·5	+ 0·7	−·0013
17	88·1	57·1		45·6		−·0014	−·0010	− 4·6	+ 0·5	−·0013
22	88·5	57·0		45·5		−·0014	−·0011	− 4·4	+ 0·3	−·0014
27	89·0	57·0		45·5		−·0014	−·0011	− 4·2	+ 0·3	−·0014
32	89·5	57·0		45·5		−·0014	−·0011	− 4·0	+ 0·3	−·0014
37	90·0	57·0		45·5		−·0014	−·0012	− 3·7	+ 0·2	−·0014
42	90·5	57·0		45·3		−·0014	−·0014	− 3·4	0·0	−·0014
47	91·0	57·1		45·3		−·0014	−·0014	− 3·2	0·0	−·0014
52	92·0	57·3		45·3		−·0014	−·0014	− 2·7	0·0	−·0014
57	92·5	57·1		45·3		−·0015	−·0014	− 2·5	+ 0·1	−·0015
30 00 02	93·0	43·1	64·8	45·3	64·5	−·0044	−·0014	− 2·2	+ 3·5	−·0040
01 02	96·8	41·8	65·1	45·7	64·9	−·0046	−·0010	+ 0·1	+ 4·2	−·0041
02 02	93·6	42·8	65·4	45·9	65·3	−·0041	−·0011	− 1·6	+ 3·5	−·0037
03 02	91·6	45·2	66·0	46·9	65·5	−·0032	−·0005	− 2·0	+ 3·2	−·0028

1844.
Cape of Good Hope.

December 29.

For Mean Monthly Readings, *see* page 423.

CAPE OF GOOD HOPE, 1844. DECEMBER 29,30.

OBSERVATIONS [illegible]F THE MAGNETOMETERS.

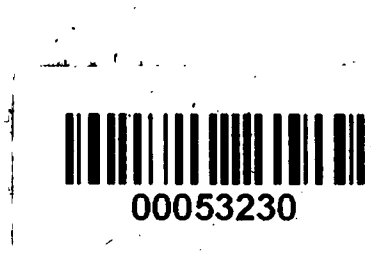
The H. F. and V. F. were observed immediately after the times specified.

Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		Differences from the Mean Monthly Values at the corresponding Hours.				
						$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	$\Delta\psi$	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm. °	Sc. Div.	Therm. °	Parts of Hor. Force.	Parts of Vert. Force.	′	′	Parts of Total Force.
29 12 00	45·4	49·2	68·2	38·0	68·0	−·0021	−·0006	− 4·6	+ 2·5	−·0011
05	45·6	50·2		37·0		−·0019	−·0007	− 4·4	+ 2·0	−·0011
10	46·1	51·0		37·0		−·0017	−·0007	− 4·1	+ 1·7	−·0011
15	47·0	51·8		36·3		−·0016	−·0008	− 3·4	+ 1·3	−·0011
20	47·0	52·0		35·3		−·0015	−·0009	− 3·4	+ 1·0	−·0011
25	46·6	52·1		36·6		−·0015	−·0007	− 3·7	+ 1·3	−·0010
30	46·4	52·0		36·6		−·0015	−·0007	− 3·8	+ 1·3	−·0010
35	46·1	51·6		37·0		−·0016	−·0007	− 4·1	+ 1·5	−·0010
40	46·2	51·9		37·0		−·0016	−·0007	− 4·0	+ 1·5	−·0010
45	46·8	52·4		36·1		−·0015	−·0008	− 3·5	+ 1·2	−·0010
50	47·1	53·2		35·4		−·0013	−·0009	− 3·3	+ 0·7	−·0010
55	47·5	53·8		34·8		−·0012	−·0010	− 3·0	+ 0·3	−·0010
13 00	47·6	53·0	68·2	34·8	68·1	−·0013	−·0010	− 2·9	+ 0·5	−·0011
05	47·2	53·0		34·8		−·0013	−·0010	− 3·2	+ 0·5	−·0011
10	48·2	53·6		34·5		−·0012	−·0010	− 2·5	+ 0·3	−·0011
15	48·8	54·0		34·5		−·0011	−·0010	− 2·0	+ 0·2	−·0010
20	48·2	54·0		35·3		−·0011	−·0009	− 2·4	+ 0·3	−·0010
25	48·8	54·0		34·8		−·0011	−·0010	− 2·0	+ 0·2	−·0010
30	48·9	53·8		34·8		−·0012	−·0010	− 1·9	+ 0·3	−·0011
35	50·0	55·0		34·1		−·0009	−·0011	− 1·1	− 0·3	−·0010
40	49·9	54·2		34·4		−·0011	−·0011	− 1·1	0·0	−·0011
45	49·0	53·9		36·0		−·0012	−·0009	− 1·7	+ 0·5	−·0010
50	49·0	54·0		36·4		−·0012	−·0008	− 1·7	+ 0·7	−·0009
55	48·5	54·2		37·0		−·0011	−·0007	− 2·1	+ 0·7	−·0008
14 00	48·2	54·5	68·2	37·8	68·1	−·0011	−·0006	− 2·3	+ 0·8	−·0008
05	47·2	55·2		37·8		−·0009	−·0006	− 3·1	+ 0·5	−·0007
10	47·0	56·6		38·1		−·0006	−·0006	− 3·2	0·0	−·0006
15	48·5	58·2		35·2		−·0002	−·0010	− 2·0	− 1·3	−·0007
20	50·9	57·5		32·8		−·0004	−·0013	− 0·2	− 1·5	−·0010
25	52·0	56·3		32·6		−·0006	−·0014	+ 0·7	− 1·3	−·0011
30	52·7	55·9		32·6		−·0007	−·0014	+ 1·3	− 1·2	−·0012
35	52·0	55·9		33·9		−·0007	−·0012	+ 0·8	− 0·8	−·0010
40	51·5	56·1		34·4		−·0007	−·0011	+ 0·4	− 0·7	−·0010
45	51·2	57·0		34·4		−·0005	−·0011	+ 0·2	− 1·0	−·0009
50	51·2	56·9		34·8		−·0005	−·0011	+ 0·2	− 1·0	−·0009
55	51·8	57·0		34·5		−·0005	−·0011	+ 0·8	− 1·0	−·0009
15 00	52·0	57·1	68·4	33·9	68·2	−·0004	−·0012	+ 0·9	− 1·3	−·0009
05	51·2	56·3		34·9		−·0006	−·0011	+ 0·4	− 0·8	−·0009
10	51·1	56·5		35·4		−·0006	−·0010	+ 0·3	− 0·7	−·0009
15	51·7	57·2		35·4		−·0004	−·0010	+ 0·8	− 1·0	−·0008
20	51·9	57·3		35·4		−·0004	−·0010	+ 1·0	− 1·0	−·0008
25	51·0	57·0		36·1		−·0005	−·0009	+ 0·4	− 0·7	−·0008
30	50·0	56·0		37·3		−·0007	−·0008	− 0·4	− 0·2	−·0008
35	50·0	56·2		37·8		−·0007	−·0007	− 0·3	0·0	−·0007
40	50·0	56·8		37·8		−·0005	−·0007	− 0·2	− 0·3	−·0006
45	49·8	56·1		38·4		−·0007	−·0007	− 0·4	0·0	−·0007
50	49·0	56·0		39·3		−·0007	−·0006	− 0·9	+ 0·2	−·0006
55	48·9	56·9		39·3		−·0005	−·0006	− 1·0	− 0·2	−·0006
16 00	48·5	57·0	68·4	39·3	68·2	−·0005	−·0006	− 1·2	− 0·2	−·0006
05	48·0	57·0		39·6		−·0005	−·0005	− 1·5	0·0	−·0005
10	47·8	56·9		39·6		−·0006	−·0005	− 1·6	+ 0·2	−·0005
15	48·0	56·7		39·6		−·0006	−·0006	− 1·4	0·0	−·0006
20	48·5	56·9		39·6		−·0006	−·0006	− 0·9	0·0	−·0006
25	48·1	56·7		40·1		−·0006	−·0005	− 1·1	+ 0·2	−·0005
30	48·0	56·8		40·1		−·0006	−·0005	− 1·1	+ 0·2	−·0005
35	48·0	57·0		40·1		−·0006	−·0005	− 1·0	+ 0·2	−·0005
40	48·0	57·1		40·1		−·0006	−·0005	− 0·9	+ 0·2	−·0005
45	47·9	57·5		40·1		−·0005	−·0005	− 0·9	0·0	−·0005
50	48·0	58·0		40·1		−·0004	−·0006	− 0·8	− 0·3	−·0005
55	48·0	58·0		40·1		−·0004	−·0006	− 0·6	− 0·3	−·0005

1844.
Cape of Good Hope.

December 29, 30.

OBSERVATIONS OF THE MAGNETOMETERS. The H. F. and V. F. were observed immediately after the times specified.						Differences from the Mean Monthly Values at the corresponding Hours.				
Mean Göttingen Time.	Declination.	Horizontal Force.		Vertical Force.		$\frac{\Delta X}{X}$	$\frac{\Delta Y}{Y}$	Δ [illegible]	$\Delta\theta$	$\frac{\Delta\phi}{\phi}$
D. H. M.	Sc. Div.	Sc. Div.	Therm.	Sc. Div.	Therm.	Parts of Hor. Force.	Parts of Vert. Force.		′	Parts of Total Force.
29 17 00	47·3	58·0	68·3	40·4	68·2	−·0005	−·0005	− 1·	0·0	−·0005
05	47·1	58·5		40·6		−·0004	−·0005	−	·1 − 0·2	−·0005
10	47·0	58·9		40·6		−·0003	−·0005	−	·1 − 0·3	−·0004
15	46·8	59·7		40·6		−·0002	−·0005	− 1	·1 − 0·5	−·0004
20	46·1	59·1		40·6		−·0003	−·0005	− 1	·5 − 0·3	−·0004
25	46·2	59·0		40·6		−·0004	−·0005	− 1	·4 − 0·2	−·0005
30	46·2	58·9		40·6		−·0004	−·0005	− 1·	2 − 0·2	−·0005
35	46·3	59·2		40·6		−·0004	−·0006	− 1·	− 0·3	−·0005
40	45·9	58·7		40·6		−·0005	−·0006	− 1·2	− 0·2	−·0006
45	45·7	58·7		41·4		−·0006	−·0005	− 1·2	+ 0·2	−·0005
50	45·5	58·7		41·4		−·0006	−·0005	− 1·2	+ 0·2	−·0005
55	45·5	58·3		41·4		−·0007	−·0005	− 1·1	+ 0·3	−·0006
18 00	45·8	59·4	67·9	41·4	67·9	−·0005	−·0005	− 0·8	0·0	−·0005
30	45·8	59·0		41·4		−·0007	−·0005	− 0·2	+ 0·3	−·0006
19 00	44·0	59·4	67·7	42·7	67·7	−·0007	−·0002	− 1·1	+ 0·8	−·0004
30 06 00	48·8	53·5	69·7	42·9	69·3	−·0010	+·0002	− 1·5	+ 2·0	−·0002
15	48·5	53·9		42·3		−·0009	+·0001	− 1·8	+ 1·7	−·0003
30	48·2	53·3		42·3		−·0010	+·0001	− 2·2	+ 1·8	−·0003
45	47·8	51·2		44·7		−·0014	+·0004	− 2·6	+ 3·0	−·0002
50	47·9	51·8		45·0		−·0012	+·0005	− 2·5	+ 2·8	−·0001
55	47·8	51·2		45·4		−·0014	+·0005	− 2·6	+ 3·1	−·0002
07 00	47·3	50·9	69·7	46·2	69·2	−·0014	+·0006	− 3·0	+ 3·3	−·0001
05	46·9	50·9		46·7		−·0014	+·0007	− 3·3	+ 3·5	·0000
10	46·2	50·8		46·9		−·0014	+·0007	− 3·8	+ 3·5	·0000
15	46·5	51·1		46·0		−·0014	+·0006	− 3·6	+ 3·3	−·0001
20	47·0	51·0		45·0		−·0014	+·0005	− 3·2	+ 3·1	−·0002
25	47·2	51·0		44·5		−·0014	+·0004	− 3·1	+ 3·0	−·0002
30	47·2	51·0		44·5		−·0014	+·0004	− 3·1	+ 3·0	−·0002
35	47·0	51·8		44·9		−·0012	+·0005	− 3·3	+ 2·8	−·0001
40	45·2	53·0		45·1		−·0009	+·0005	− 4·7	+ 2·3	·0000
45	44·9	53·6		44·3		−·0008	+·0004	− 4·9	+ 2·0	·0000
50	45·0	54·4		42·8		−·0006	+·0002	− 4·8	+ 1·3	−·0001
55	46·0	56·0		40·7		−·0003	−·0001	− 4·1	− 0·3	−·0002
08 00	46·0	57·2	69·7	39·4	69·4	·0000	−·0003	− 4·1	− 0·5	−·0002
05	47·8	59·2		35·9		+·0004	−·0008	− 2·7	− 2·0	−·0004
10	48·2	59·2		35·9		+·0004	−·0008	− 2·4	− 2·0	−·0004
15	48·2	59·1		35·3		+·0004	−·0009	− 2·5	− 2·1	−·0004
20	48·2	58·9		35·3		+·0004	−·0009	− 2·5	− 2·1	−·0004
25	47·9	59·1		35·3		+·0004	−·0009	− 2·7	− 2·1	−·0004
30	48·0	59·1		35·3		+·0004	−·0009	− 2·6	− 2·1	−·0004
35	48·0	58·8		35·3		+·0003	−·0009	− 2·6	− 2·0	−·0005
40	48·0	58·4		35·3		+·0002	−·0009	− 2·6	− 1·8	−·0005
45	48·2	58·2		35·3		+·0002	−·0009	− 2·6	− 1·8	−·0005
50	48·5	57·8		36·4		+·0001	−·0007	− 2·6	− 1·3	−·0004
55	48·2	57·2		37·3		·0000	−·0006	− 2·6	− 1·0	−·0004
09 00	48·1	56·6	69·7	37·3	69·2	−·0002	−·0006	− 2·6	− 0·7	−·0005
05	48·7	56·7		37·3		−·0002	−·0006	− 2·2	− 0·7	−·0005
10	48·7	56·6		37·8		−·0002	−·0005	− 2·3	− 0·5	−·0004
15	48·6	56·6		38·2		−·0002	−·0005	− 2·3	− 0·5	−·0004
20	48·3	56·7		38·6		−·0002	−·0004	− 2·6	− 0·3	−·0003
25	48·3	56·6		38·6		−·0002	−·0004	− 2·6	− 0·3	−·0003
30	48·1	56·5		39·2		−·0003	−·0003	− 2·8	0·0	−·0003
10 00	48·0	59·0	69·3	38·0	69·1	+·0002	−·0005	− 2·9	− 1·2	−·0003
11 00	50·1	59·1	68·8	39·1	68·6	+·0001	−·0004	− 1·4	− 0·8	−·0002



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